

CENTRAL LIBRARY

B. I. T. S.

PILANI

Acc. No

35122

ISSUE LABEL

Not later than the latest date stamped below.



Bernarr Macfadden

HAIR CULTURE

*Rational Methods for Growing the
Hair and for Developing Its
Strength and Beauty*

BY
BERNARR MACFADDEN

AUTHOR OF MACFADDEN'S "ENCYCLOPEDIA OF HEALTH,"
"STRENGTHENING THE EYES," "HOME HEALTH LIBRARY,"
"AFTER 40—WHAT?" AND OTHER WORKS ON
HEALTH AND SEX.

NEW YORK
By MACFADDEN BOOK COMPANY, INC.
1939

COPYRIGHT 1936

By MACFADDEN BOOK COMPANY, INC.

NEW YORK CITY

In the United States, Canada and Great Britain

Printed in the United States of America

INTRODUCTION

“**A** WOMAN’S crowning glory is her hair.” At one time this was an expression frequently heard, and it still holds good. Certainly a goodly share of woman’s attractiveness lies in her hair. A charming face is still more charming when framed by lovely hair, whether it be raven black, golden blonde or chestnut brown. Indeed, plain features often are made attractive if the possessor is fortunate enough to be the owner of a beautiful head of hair.

What is true of woman is also true of man. A healthy head of hair suggests strength, and vitality, and those qualities which one naturally looks for in manhood. Just as a beautiful woman is made more attractive by her coiffure, so a handsome man is made still more handsome by a head of well-kept hair.

Baldness is inexcusable in most cases,

although in some families, heredity seems to play a not unimportant part in the matter of hair. Yet baldness need not exist in the majority of people, and thin, illy-nourished, dry and brittle hair is no more inevitable than baldness.

There is a close relationship between physical health and a strong healthy scalp producing strong, healthy hair. Such hair is not to be obtained by the use of nostrums. One may incessantly apply liquids and other applications, but the results will in most cases be absolutely nil, unless the proper measures looking toward improved nourishment of the scalp are taken. While there are many so-called "scalp foods" on the market, the real essential for a healthy scalp is the building up of the vitality and health of the entire body. The elimination of poisons and toxins from the system and the purification of the blood-stream which carries nutrient material to all parts of the physique, including the scalp, is indispen-

sable if one would have a healthy scalp and a good head of hair.

In the majority of cases proper living, assisted by local cleanliness and stimulation of the scalp, will prevent baldness and enable the possessor of strong, healthy and attractive hair to keep it through life or at least until extreme old age causes a breaking down and general deterioration. Even then, when one lives properly this deterioration may not occur until one is considerably past the three score years and ten, which some look upon as the last frontier of human life.

The hair is nourished by the circulatory system, just as are the nails, and even the teeth, and the blood and the circulatory system are kept normal by proper living.

The building up and maintaining in a proper healthy state of the body in general and incidentally the scalp is one of the means of acquiring and keeping a good head of hair. But in addition proper care given

to the scalp and the hair is essential to obtain this result.

Good hair depends upon good health, but good hair also needs personal attention and within the pages of this book will be found methods by which such attention to the hair may be applied effectively. These methods have been evolved after much study and investigation of the many conditions which cause loss of hair, poor hair and deficient general nutrition.

An experience of almost thirty-five years has taught me that in the vast majority of cases early loss of hair and the development of baldness can be prevented and that except in rare instances there is no excuse for such conditions to exist. I have also learned that when these conditions are present they are due almost invariably to neglect of the body, and not merely to neglect of the scalp itself.

This little volume deals with abnormal conditions of the hair and scalp. It provides suggestions as to what may be done to pre-

-vent or to overcome these conditions, and to enable one to keep such a healthy head of hair as should be the heritage of every woman and every man.

Actually, this is not hard to do. A little time devoted each day to the care of the scalp and the hair together with careful living according to Nature's laws is all that is required. But one must not wait until it is too late. "An ounce of prevention is worth a pound of cure."

I may cite my own case in proof of what I teach. At sixty-seven years of age I have a full head of hair, although years ago my hair began falling out at an alarming rate. At that time I began to investigate the claims of practically all the prominently advertised treatments of the scalp and for the preservation of the hair, and I found most of them comparatively useless. Whatever little value they may have depends largely on their application. I set myself the task of ascertaining the cause of my condition so

that I might apply systematic and sensible treatment, and the measures which I devised as being of the greatest value are set forth in these pages. They are well worth a close study and in practice they will bring about desired results.

A handwritten signature in cursive script, reading "Pernarr Macfadden". The signature is written in black ink and features a long, sweeping underline that extends across the bottom of the name.

CONTENTS

CHAPTER	PAGE
INTRODUCTION	v
I. HAIR AS AN ATTRIBUTE OF BEAUTY .	1
II. FACTS EVERYONE SHOULD KNOW	
ABOUT THE HAIR	8
III. CARE OF HEALTHY HAIR	31
IV. HOW TO SELECT COMBS AND BRUSHES .	50
V. FACTS ABOUT SOAPS AND SHAMPOOS .	56
VI. THE CAUSE OF HAIR TROUBLES . . .	72
VII. DANDRUFF	80
VIII. DRY HAIR, OILY SCALP AND SPLIT	
HAIR	95
IX. "FALLING" HAIR	109
X. BALDNESS	114
XI. GRAY HAIR	133
XII. SUPERFLUOUS HAIR	154
XIII. HAIR "BEAUTIFIERS"	171
XIV. HAIR TONICS	188
XV. EYEBROWS AND EYELASHES	194
XVI. THE BEARD	203
XVII. HAIR DRESSING	208

ILLUSTRATIONS

SUBJECT	PAGE
Portrait of Author	<i>Frontispiece</i>
Section of Skin, Showing Hair Structure . . .	13
Section of Hair Highly Magnified	15
Brushing Long Hair	37
Combing Long Hair	39
Shampooing Men's Hair	57
Shampooing Women's Hair	59
Dry Cleaning, or Shampoo	65
Alternate Hot and Cold Applications	67
Oil Massage for "Dry" Dandruff	88
Oil Treatment for Dry Hair	97
Correct Way to Dry Long Hair	101
Hair Pulling of Long Hair	111
Pulling Hair of Various Parts of Scalp . . .	113
Pulling Men's Hair	115
Hair Pulling, with Interlocked Fingers . . .	117
Massage—Rotary Movement	119
Massaging Front of Head	123
Massage—Pinching Movement	127
Massaging Back of Head	129
Dressing Long Gray Hair	135
Dressing Short Gray Hair	137
Curling Hair with Curlers	173
Effects Secured by Curlers	175
Eyebrows—Brushing	195
Pulling Eyelashes	197

HAIR CULTURE

CHAPTER I

Hair As an Attribute of Beauty

FROM the earliest dawn of history men have invested hair with a mysterious halo. Its beauty of color and texture has supplied inspiration to poets and dreamers. Always it has been the crowning glory of woman—possibly because it is that “secondary sexual appendage,” as Darwin calls it, which most clearly differentiates the sexes in obvious outward aspect. One would indeed be deficient in all sense of the esthetic who failed to see in the curling raven locks, the cascade of golden floss, the soft billows of chestnut brown, or the full flash and glint of burnished copper, a beauty akin to that which colors a flower, or makes of autumn foliage a feast to the eye.

True it is that not all women can boast of these pronounced and striking attributes of beauty—that many there are with hair of no more intrinsic beauty than there is in a skein of hemp.

Yet, in the main, the hair of any well-kept, healthy head is essentially beautiful—almost as much so as is the luster and sparkle of a pair of expressive, soulful eyes.

So marked is this quality that it may be truly said that the fate of nations has often been bound in some mass of glinting gold, or in a braid of blue-black texture that may have rivaled the softness and sheen of a blackbird's wing. It is for this reason that a bald-headed Cleopatra or Madame Pompadour would be an almost unthinkable anomaly. A Helen of Troy or a Lorelei who might have used a sponge instead of a golden comb for her hair, would be as absurd and impossible as a griffon or a pig with bird-of-paradise wings.

Yet a Medusa, with a thatch of living

snakes—so horrid in aspect that merely to gaze upon the monstrosity would turn the beholder to stone—has an abiding place in the literature of the world. The very conception of the Gorgon implies an innate psychological idea of repulsion, which must be reckoned with as a part of the mental reaction of the race. All this but emphasizes the importance of the hair in enhancing or marring human beauty.

The Origin of Hair

Hair is, biologically considered, of rather lowly origin. It is a lineal evolutionary development of the scales of reptiles. It is adapted from the same horny growth that found its expression in the claws of the giant carnivora, or the horns of the buffalo or the stag. Its texture, so biologists tell us, is merely the form which these cells have taken in adapting themselves to their various purposes and environments.

The structure of the hair, considered

from this standpoint, is very similar to the structure of the teeth. The hair follicle is an inversion of the skin, just as the tooth follicle is an inversion of the mucous membrane. It is, like the dentine of the teeth, formed by the conversion of the pulp enclosed in a follicle.

So the hair, like nails, claws and horn, consists of horny protuberances from the skin, and shows two parts—the investing (or horny part), and the medulla (or pithy interior)—varying in different animals, from the musk deer or the seal, to the hedgehog or the porcupine.

Hair Without Hygiene

The thought may come to mind that some of the most luxuriant heads of hair that ever existed grow on heads that know absolutely nothing of cleanliness.

There are, for instance, various negro tribes in Africa, with hair so thick that the bushy-heads used it to skewer their pipes in,

or as a pocket for sundry personal belongings—they have no other receptacle about their nearly naked bodies that would serve as a pocket.

These heads of hair are elaborately coiffured and marvelously oiled, or possibly plastered with mud or clay—as a dressing, and for ornamental purposes.

An occasional soaking in one of the torrential rainstorms of equatorial Africa, or perhaps a spill overboard from a canoe, constitutes the extent of what might be construed as an unwitting contribution to the cause of hygiene.

The same is true of the Eskimos, the Aleutian Indians, the Patagonians, and other dwellers in bleak and forbidding climates—climates where bathing would be looked upon as a form of mental aberration.

These facts might puzzle us if we did not remember that all these people live largely out of doors. Their heads are never overheated by badly ventilated hats—though

one could think that some of their methods of hair dressing would make the heads as hot as would any hat worn by civilized man or woman, and be as poorly ventilated. It probably is as much the contact of air and sun with the body in general and contact of these people with all that constitutes Nature that accounts for their good heads of hair. In many cases, of course, the sun and air do come directly in contact with the hair and exert their cleansing and preserving power and force for protection.

Importance of Hygienic Care

Be this as it may, however, there now exists no doubt as to the value of a fine head of hair in enhancing the beauty of a fine head—or even of a plain head. And while all women cannot be the proud possessors of such a cascade of hair as was possessed, for instance, by Lady Godiva, who rode naked through the streets of Coventry covered only by the flowing mantle of her hair,

yet all women can have *clean* hair, well brushed, free from all offensive odors, and good to look upon.

And while all men cannot have hair like the old Greeks—who combed and braided their long hair as a solemn ceremonial in preparation for battle—every man can at least give such hair as he may have a chance for life, health, and the longest possible endurance, by according his hair a modicum of intelligent attention.

This, alas, is much more than many do at the present time; which accounts very largely for the unwarranted prevalence of baldness; also for the fact that a majority of men living a so-called civilized life are troubled with dandruff and various forms of diseases of the scalp—conditions which are largely avoidable, or quite generally curable by proper hygienic and dietetic care.

CHAPTER II

Facts Everyone Should Know About the Hair

HAIRS grow quite generally over all the surface of the human body—except the eyes, the vermilion surfaces of the lips, the genitals, the nipples of the breast in women, the palms of the hands and the soles of the feet. But they differ extremely in length, thickness, shape and color, according to situation, age, sex and race. They are most plentiful, in ordinary individuals, on that portion of the skin known as the scalp. This covers the top, sides and back of the head—above and behind the ears, to the extent of about one hundred and twenty square inches.

The boundaries of hair growth are tolerably well defined, where the more or less profuse growth shades off into a surface

relatively free from hair, or made so by the gentle ministrations of the barber or the hairdresser.

The scalp is made up of the cutis, or true skin; the sweat glands; the hair follicles, from which grow the hair shafts; the sebaceous or oil glands; and the little erector muscles that pull the hair up on end when the sympathetic nerves respond to the sudden impact of fright.

Structure of the Hair

The skin of the scalp does not differ from that of other parts of the body, except for the presence of the hair follicles, and their minute appendages.

According to eminent authorities, there are about thirty-eight sweat glands to the square inch on the average head. It is interference with the normal functioning of these glands that is chiefly responsible for most diseases of the scalp.

The hair follicles of the scalp are set in at

an angle to the skin surface except in the case of the eyelashes, where they enter straight. But the angle of the hair follicles varies considerably in different individuals, and in different parts of the same individual. The follicles are located in the upper part of the skin in the case of the so-called "lanugo hairs"—the soft, downy hair, somewhat deeper with the stronger hair; and deeply imbedded in the skin tissue with long, soft hairs. The length or depth of the follicles vary from one-twelfth to one-fourth of an inch. They are permanent structures, and cannot be pulled out—any more than can any other hole be pulled out.

The bottle-shaped depression, which constitutes the follicle, is slightly expanded at its lower extremity, and closed in. It is surrounded by two layers of connective tissue, the inner layer of which sends up a small conical projection which develops into the *papilla*. The papilla forms the base of the hair-bulb.

Minute nerve filaments are present in each hair follicle, governing the papillary circulation and the hair nutrition. This nerve supply is of great importance, for any interference with the nervous energy interferes with the nutrition of the hair root, and its coloring (or pigmentation) as well. Any disorder of the papilla or any interference with its blood supply results in deformities of the hair shaft that grows from it, and may cause the death and consequent loss of the hair.

Perhaps the most important of all the structures connected with the hair is the fatty layer under the skin. The little blood-vessels of the papillæ spring from this fatty layer, and if the fatty layer is absorbed or lost from disease, lack of care or lack of proper exercise, it is obvious that the blood supply of the hair must be lost, the hair will cease to be nourished, and it will change pigmentation or become lost (probably both).

How the Hair Grows

The growing hair pushes up through the follicle and emerges from it at the surface of the skin. That portion of the hair between the bulb and the skin is known as the *root*. After the hair emerges through the skin it is called the *shaft*. The shaft ends in a *point*.

The hair grows upward because the little horny cells keep growing and pushing it upward. These cells are arranged in three different layers—the outer, middle and inner layers, which vary in shape in a rather intricate way.

They are of different sizes and shapes. The manner in which they are built together—whether the cells are straight and uniform, or diversified and spiral—is what causes some hair—such as possessed, for instance, by the Indian, or the Chinaman—to assume a straight form. While a more pronounced spiral arrangement of the cells

This single hair-shaft, with the skin structures that appear with it is highly magnified. It shows:

1. Hair shaft at the point of emerging from skin.
2. Duct issuing from sebaceous gland.
3. Hair muscle.
4. Sebaceous gland.
5. Outer sheath of hair.
6. Connective tissue fibers.
7. Hair follicle.
8. Outside of hair.
9. Inner sheath of hair.
10. Pacinian corpuscle.
11. Papilla at root of hair.



will produce wavy, or curly, or even kinky hair.

It will be seen from this description that there is an anatomical, or, rather, a mechanical reason why it will never be possible completely to remove the kinkiness of a negro's hair and keep it removed. For just as when a curled-up shaving shrinks back and resumes its original curl when dry, so will such kinky locks curl up, shrink back, and resume its kinkiness when the oil or other substance used to reduce temporarily its "curl" dries up.

There is entertained in some quarters an erroneous opinion that the head of the negro is covered with a species of wool instead of with true hair. But all true wools that have been examined microscopically present a more or less serrated or jagged surface, while hairs present an imbricated, (overlapping), scale-like appearance.

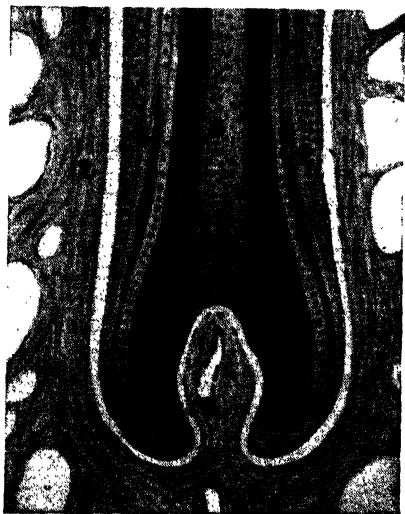
Human hair will entangle to a certain

extent, yet it will not felt into a compact mass, which is the characteristic property of wool as it grows upon the domesticated sheep and other living creatures, but which is not a quality that marks hair, human or otherwise.

These arrangements of the cells of the hair are primarily racial. In most individuals in whom there is no racial dilution, or ad-

This cross-section of a hair root is still more highly magnified than the preceding illustration to show:

1. Hair follicle.
2. Outer sheath layer.
3. Inner sheath layer.
4. Outside of hair.
5. Core of hair.
6. Bulb of hair.
7. Papillæ.



mixture of other blood, the racial hair characteristics are decidedly marked.

There is also a great variation in texture or in thickness, just as there is in the finger nails—which are made up of cells similar in their nature to hair cells—due to the arrangement of the individual cells comprising the hair shaft. This is characteristically racial.

These differences in the structure of the hair are quite as well marked, to the eyes of an ethnologist, or student of racial differences, as are the differences in color, or the shape of the nose and ears, or other featural differences.

What the Hair Is Made Of

Dry hair is composed of five-tenths to seven-tenths parts of incombustible material. It is one of the most durable of all our physical possessions, almost as much so as the teeth. The hair on Egyptian and Peruvian mummies is remarkably well preserved.

Chemically, hair contains 23 per cent. of alkaline sulphates, 2 to 10 per cent. of oxide of iron (present in high percentage in red hair), 40 per cent. of silica and other materials. The analysis of the hair substance determines it to contain, in 100 parts, the following, among other minor constituents 50 parts of carbon; 6.36 of hydrogen; 17.14 of nitrogen; 20.85 of oxygen, and about 5 of sulphur. The proportions of the chemical constituents vary also with the color of the hair.

The hair contains a certain proportion of oil, varying in color with the color of the hair.

Flaxen hair is richest in oxygen and sulphur and contains the least carbon and hydrogen; brown hair has the most carbon and the least oxygen and sulphur; while the white hair of the aged contains a considerable quantity of phosphate of lime, or bone earth.

The Length of the Hair

There is a great difference in the length of hair grown to its natural full length—and which never has been subjected to cutting.

Human hair as found upon various heads usually measures from a fraction of an inch to a yard or more in length.

Dr. C. Henri Leonard, in his book on hair, states that:

“The longest hair that I have seen in the female is that belonging to Mrs. Dr. Prittie, of Detroit. She is now 28 years of age, and her hair measures some fifty-eight inches in length. It is very dark colored. I have measured the diameter of the shaft, and find it to be $\frac{1}{300}$ of an inch. Luxuriant hair growths have been characteristic of her father’s family, especially among the male members.

“Dr. Wilson says that a lady writes to him that she is five feet five inches in height,

and that when standing many of her hairs trail three or four inches upon the floor. She is 28 years of age, hair wavy (hence from the ovoid shaft), and it gives positive pain to have one pulled from the follicle.

“A lady in Massachusetts is reported to have refused \$1,000 for her head of hair, which is quite thick and heavy, and measures five feet and eleven inches in length.

“White speaks of an Italian lady whose hair trailed on the floor when she walked. In Greece it is occasionally seen of that length.

“In 1814, in Fleet Street, London, a girl was exhibited having a head of flaxen hair five feet and nine inches in length.”

But all such cases are exceptional—and it is questionable that such excessive growths of hair are either comfortable or desirable. What one should seek to attain or maintain for the hair is a healthy and vigorous state—not abnormal length.

The average normal hair, when cut

through and examined under the microscope, is found to be either nearly round or slightly oval. It sometimes is almost flat, however, although really flat-surfaced hair is only rarely met.

Examining further, when the microscope is focused upon the surface, the edges of the outside cells will appear as dark lines, like the edges of the slate in a slate roof. If it is focused on the *edge* of the hair shaft, it will look like the edge of a fine saw blade, as the edges of the outside cells overlap one another.

The cortical substance of the hair is marked by short stripes of a darker color, which makes the hair appear to be composed of fibers. These fibers are really long, spindle-formed cells.

In this substance fine black granules are scattered about or gathered in heaps. These are the pigment granules, which give the hair its characteristic color.

This color may be pure white, gray,

flaxen color or golden blond, red, reddish brown, light or dark brown, or black.

How the Hair Gets Its Color

The color of the hair is dependent upon four factors:

First: The amount of pigment diffused throughout the hair cells.

Second: The granular pigment grouped into little clusters.

Third: The amount of air in the cells, and the distribution of this air throughout the structure of the hair shaft.

Fourth: The superficial character of the hair.

It is the cortex and the grouping or diffusion of the pigment cells in it that form the chief factor in determining the color of the hair.

The diffused pigment or primary color of the hair gives to the hair a light brown to a dark red color, according to its intensity. The combination of the diffused with the

clustered, or granular pigment makes the various shades of color met with. The darker the hair, the more granular pigment will be found in it—the lighter, the less, although even blond hair will be found to contain some granular pigment cells.

The air-globules are in the outer cells of the cortex, or fibrous portion of the hair, and help give it its characteristic color.

If there is any pigment in the hair it never appears quite white, even if air is present, but is always some shade of gray.

The hair of the albino, being devoid of pigment, always assumes a pure white color—whether in the human or animal.

If there are no air-globules in the hair, or if the pigment is in excess, the hair will partake of the color of the pigment.

The color of the hair generally matches the complexion and the color of the eyes. This is one reason why dyed hair rarely deceives an experienced eye—or even most casual eyes. For the dyed hair contrasts

too markedly with the color of the skin. For this reason dyed hair is most generally disfiguring.

How Long Does the Hair Stay In?

The length of the individual hair-life varies with the sex, age, character of the hair, and individual peculiarities. The lifetime of the eyelashes has been computed to be about six months while the average length of life of an individual hair on the head is from two to six years.

It is believed that hair grows faster in the daytime than at night-time, and faster in warm weather than in cold—probably for the same reason that any other kind of vegetable or animal life thrives best in the presence of light and by the stimulus of heat.

Shaving and cutting the hair tend to make it “come out” coarser, and probably also stimulate its rate of growth.

The average length of hair among Anglo-Saxon women is from eighteen to twenty-

four inches if left uncut—although, as we noted earlier in this chapter, it may grow to even fifty or more inches in length.

The hair of English and American men grows to an average length of six to eight inches—although the custom, to which nearly all conform, is for men to keep the hair much shorter than these lengths.

The rate of growth of the hair is from three-eighths to about three-quarters of an inch a month. With women, after the hair reaches a length of ten to fourteen inches, its rate of growth is reduced one half, and toward the end of its life the increase in growth is hardly perceptible.

How Many Hairs Are There on the Head?

The average number of hairs to the square inch is estimated to approach one thousand. The surface of the scalp, as we have seen, approximates one hundred and twenty square inches. There may be found

one hundred and twenty thousand hairs on the head of the average man or woman.

The diameter of the hair varies with its color, its location on the scalp, and the age and sex of the individual, and with different individuals in whom these factors are similar.

Flaxen hair is the finest, as every observer knows; black hair the coarsest. The finest hairs are from one five-thousandth to one five-hundredth of an inch in thickness; while the coarsest are from one four-hundredth to one one-hundred and fortieth of an inch in diameter. Usually the hair of children is finer than the hair of adults.

The contour of the hair is circular, oval or flattened. Whether the hair is curly or straight depends largely upon this contour—which in turn, as we have seen, depends upon the arrangement of the various cells that go to make up the hair.

The more oval or flattened the hair, the greater will be its curl. The curliness is also

influenced by atmospheric conditions. Naturally curly hair becomes even more curly when slightly damp. Naturally straight hair that has been curled over a curling iron, on the contrary, loses its attractive curl when damp, and "strings out" in a manner most discouraging to the industrious beauty.

Hair is very elastic, and is capable, if in a thoroughly healthy condition, of being stretched greatly beyond its normal length. When the strain is removed the hair will retract to nearly its original length.

The hair possesses quite a good deal of strength, as a healthy hair is capable of holding up a weight of from two to four ounces without breaking, and a head of hair can support a weight of several hundred pounds.

"Electricity" in the Hair

Healthy hair develops considerable electricity on friction, especially in cold or very dry weather. The electricity, which is negative in character, may be elicited by combing

the long hair of a woman with a rubber comb, when a pronounced crackling sound will be heard and many sparks will be visible in the dark. A man's hair will elicit the same phenomena, of course.

In very susceptible people the hair will stand out straight from the head under electrical stimulus. Certain animals, cats in particular, are so "full" of this electricity that if the fur is rapidly stroked "against the grain" a quite distinct electric shock may often be felt.

Purposes Served by Hair

Hair serves four primary purposes:

1. It preserves the heat of the body.
2. It acts as a protective agency.
3. It is an organ of touch.
4. It promotes beauty.

Hair is a poor conductor of heat. Therefore, it protects against exposure to the rays of the sun, and it also keeps in the natural

body heat when the head is exposed to the cold.

It is interesting to note that where one is exposed even to excessive heat and excessive cold, the hair is likely to grow quite luxuriously.

The hair on the head forms a cushion, which protects against injury and thus is a splendid defense to the skull in case of blows or falls.

The eyebrows are a defense to the eyes, and also turn the perspiration, thus preventing it from running into the eye. The eyelashes catch the flying particles of dust, and by touch cause the eyelids to close for protection more quickly than could be done through the consciousness. Hairs in the ears and nostrils prevent insects from gaining entrance into the cavities they guard.

The Oily Secretion of the Hair

The natural oil of the hair comes from the sebaceous glands. The purpose of this oil,

of course, is to keep the hair soft and flexible, prevent it from being broken off, and to give the hair lustre.

This secretion is constant during health, and is the result of fatty degeneration in the lining cells of the sebaceous glands, which fill slowly with oily matter, then burst and discharge their contents.

These glands, emptying into the hair follicles just below the skin surface, are admirably located for lubricating the hair at the root.

The oily secretion, by rendering the hair less absorptive of water, prevents the disintegration of its elements from exposure to moisture and air.

The secretion of the sebaceous glands also acts as a corklike composition through which the hair passes. This prevents the entrance of foreign material into the hair follicle.

It will be seen from this that a hair and its attachments form a more complex and complicated organ than it would appear.

Therefore it is not surprising that a lack of knowledge of its structure, function and care frequently results disastrously to the hair and most disagreeably to the owner of the hair.

What some of these sins of omission and commission are we shall now see.

CHAPTER III

Care of Healthy Hair

AT CERTAIN times of the year, as most everyone has noticed, animals “shed their hair.” The hair drops out by the handful, and the animal’s coat is greatly thinned.

At the same time that the old hair falls out the new hair comes in, and soon the animal’s coat is as thick as ever.

In human beings there is, instead of a seasonal shedding of the hair, a constant falling, and a new growth replacing the loss—although at certain seasons this process may be more active than at other seasons.

This natural falling comes about because the hair loosens from its papilla, and is forced into the middle region of the follicle, from which precarious post of attachment it

is brushed or combed out—or it merely drops off.

If the rate of replacement can keep pace with the rate of loss, the individual will naturally have a fine crop of hair, as long as he has any use for hair.

But to maintain this condition is a problem. Often it is an unsolvable one. This is especially true if there is a hereditary tendency toward baldness, or toward premature loss of the hair.

I would urge upon mothers, therefore, the necessity of giving careful attention to the condition of the scalp in their children, so that the proper exercise and nutrition of the scalp may be begun at the earliest possible age—before the nutrition of the hair follicle is interfered with or unfavorably influenced from any cause.

This early attention to the needs of the scalp will be what one might call *prophylactic*—or preventive—not only to keep the scalp in a healthy condition, but also to pre-

vent the development of any parasitic trouble that might, later on, cause the loss of the hair.

The Care of the Hair in Childhood

I cannot impress too strongly upon mothers the necessity of seeing to it that the greatest possible care in the treatment of the scalps of their babies is given.

The first shampoo should be more carefully performed than any shampoo the little individual may ever receive or take during the remainder of its life.

Improper management at this time may set up a chronic inflammation of the scalp.

To remove the fatty layer that covers the scalp and thus free the sweat glands, *only the most gentle natural methods* should be employed.

Care of the Baby's Scalp

So have the nurse or attendant saturate the scalp with sweet almond oil, olive oil, or

vaseline. Only the purest oil should be used, although a few drops of bergamot or wintergreen may be incorporated, if a little perfume is desired.

Then, after the body of the child is washed and the infant is dressed, the head should be cleansed with a liberal quantity of soap and warm water.

Great care should be taken to use only a pure castile or glycerine soap—either in solid or liquid form.

If all the fatty coating is not removed at the first bath, the nurse should apply another application of the oil, and leave this on until the next day, when it usually will wash off quite readily.

If all the coating is not removed at this time, still another application should be made—until the scalp is perfectly cleansed.

Under no circumstances should a fine comb be used on a baby's tender scalp as this might work irreparable injury. In any case, serious harm is likely to result.

For a week or two the infant's scalp should be oiled. This will tend to prevent any accumulation of sebaceous matter, and will also protect the tender skin.

Every day the baby's head should be carefully washed, not only for the stimulating value of the cleansing, but also to prevent the oil from becoming rancid.

After the hair is grown it is not necessary to oil the scalp so frequently; nor should it be washed oftener than two or three times a week.

The hair and scalp of children, as well as of adults, must be kept scrupulously clean, so as to prevent the clogging up of the follicles by dust or dirt and to prevent itching and irritation to the scalp, caused by the presence of the foreign matter. This practice should be religiously followed.

The Value of Brushing the Hair

The value of brushing the hair regularly can hardly be emphasized too strongly. It

polishes the hair itself and will tend to increase very greatly its lustre. But the principal value of the brush lies in the influence of its proper use upon the scalp. Frequently in my writings I have spoken of the value of a friction bath, that is, using brushes over the entire surface of the body until the circulation has been rapidly accelerated to the surface. As a means of accelerating the circulation of the scalp, hair-brushes are of equal, if not greater, value than the use of a brush on other parts of the body.

Brushing should be performed once or twice each day. Special care must be used at first, to avoid much vigor, though after a time there is but little danger of this.

Some women prefer to use a brush with moderately stiff bristles for removing dandruff, and then use a soft one for polishing and arranging the hair. This is satisfactory, but the one brush, with moderately stiff bristles, should be sufficient.



The brushing of the hair should be done after it has been carefully combed out. Always brush downward from the roots of the hair to the ends at one stroke.

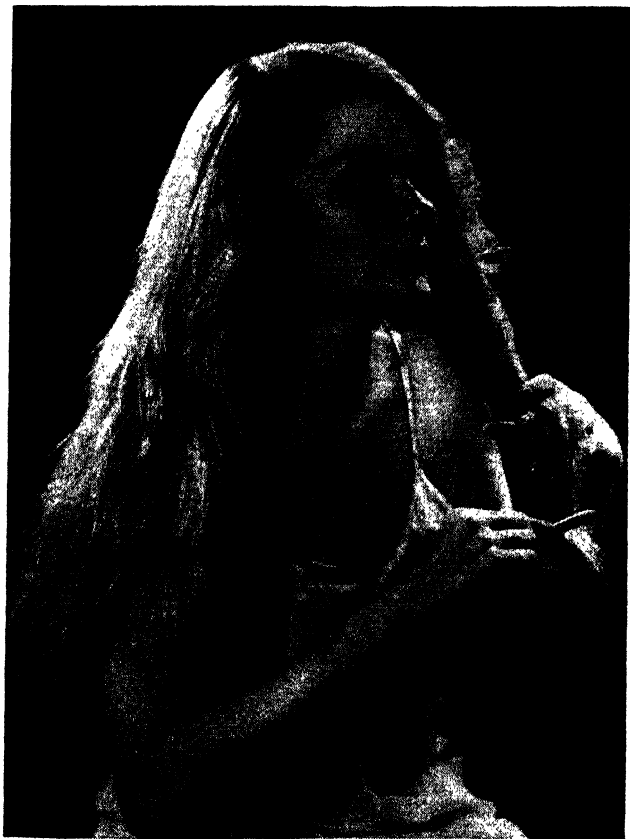
How to Avoid Snarls and Tangles

Of the comparatively few women nowadays who retain their unshorn locks, some have great trouble while "doing up their hair" to prevent snarls and tangles from developing. If these women would always be careful to divide the hair into strands, and to begin combing at the tip of the hair, taking only a few inches, and gradually work back to the roots, a little at a time, they would avoid much of this trouble.

They should also remember always to un-snarl the hair with the comb before attempting to use the brush. For if they start in with the brush the tendency for the hair to snarl and kink is very much greater.

If you treat your hair regularly to this thorough proper care it will usually be lustrous and glossy, and will "lie" naturally, without the use of any water, pomades or "tonics."

One of the most sensible hygienic, time-



To comb long hair: Divide the hair into strands and begin combing at the bottom, taking it up a few inches higher each time. Comb in turn each strand in this way

saving and significant practices among women today is the bobbing of their hair. With bobbed hair there is less opportunity to indulge in elaborate hair-dressings, which formerly appealed to woman's vanity. But the ease with which the shorter locks can be taken care of compensates for any loss of decorativeness. But with the bobbing of hair have come numerous attractive ways of dressing the hair, so that it still remains woman's "crowning glory."

The Benefits of Sun-Baths

The direct rays of the sun are a tonic of great value for the hair, for they impart a lustre and a richness of color which can be acquired in no other way. The best time to sun the hair is immediately after washing the scalp. Allow the full rays to fall upon it while the process of drying and polishing is proceeding. The fine luster and luxuriance of the hair of women famous for their beauty has often been commented upon,

and they often accredit the superior condition of their hair as much to the frequency of sun-baths as to the great care taken of it otherwise.

I must caution my too enthusiastic readers, however, against over-exposure of the hair to the direct rays of the sun for too long a period of time. For sunlight has a tendency, under certain conditions, to bleach the hair, or to "fade" a pronounced brunette and to yellow both white and blonde hair. As with every other good thing in life, let "moderation" be your watchword.

The Purifying Action of Oxygen

Fresh air is one of the greatest of all purifying agents, as well as a wholesome tonic to the hair and scalp. To produce that delightfully *clean* odor that comes from well-kept hair, it is not only necessary to maintain scrupulous cleanliness of both hair and scalp, but also to treat the hair and scalp to frequent air-baths.

This will prevent that tendency of the perspiration to act upon the oil in the scalp and hair, which is the chief cause of the rancid odor that is found in many otherwise well kept heads.

Men should insist that their hats be provided with a means of ventilation, for if no such means are provided the heated air is confined, and does much to bring about an unhealthy condition of the hair and scalp.

A hat should be as light as possible; should not fit too tightly around the head, and should be ventilated; and even when all these precautions are followed, if one will make a habit of occasionally removing the hat from the head when outdoors the effect will be beneficial.

And finally remember that hats are an abomination—a civilized accompaniment that should be avoided as much as possible if you respect and want to retain your hair.

An indication of a step forward in hy-

giene and in freedom of the body from unnecessary external encumbrance is the many male heads now observed free from any sort of headgear other than that provided by Nature. I firmly believe that the more general this practice of going bareheaded becomes, the greater will be the tendency towards the disappearance of hereditary baldness.

Man naturally is a bareheaded animal—just as are all other animals. Except for style, there is no legitimate reason for a hat, unless one is bald. Man normally is provided with all the head-covering necessary, except in the hottest regions, when a sun shade is advisable—or, as natives do, remain out of the sunlight in the heat of the day. As for winter, a man's *head* needs no extra covering, though his ears may. Of course, if there is no natural head covering a hat should be worn in very cold or very hot weather.

Scalp Massage and Its Effects

The value of massage as a means of accelerating the circulation is admitted by all. It has been used for centuries. As far back as history dates, there is evidence of the use of rubbing and kneading as a remedy for pain, soreness or fatigue. The fact that it arouses the circulatory system to extreme activity in the parts of the body being treated, is admitted by all physicians and students. Why should not massage be of great value in awakening to greater activity the circulatory system of the scalp? Its value can hardly be questioned. Hence, the importance of massage of the scalp by the various means here recommended must be accurately understood and these measures regularly practiced.

The best way to apply massage is to use the finger-tips with a rotary motion. Then place both palms flat on the scalp so that the finger tips are about one inch apart, and

push the hands toward each other, so that the fold of the scalp is pushed up between the finger tips. This should be repeated thoroughly over every part of the scalp, and will bring about a sensation of warmth and a feeling of comfort.

An effective aid to strengthen the hair, by bringing the blood to its roots in liberal quantities, is to pull it slightly—all over the scalp. This gently raises the scalp from the skull, and at every point where the scalp is thus raised the circulation is accelerated. The elements needed to feed the hair are taken up in greater quantities, and the result is naturally stronger hair. Benefits can often be acquired from this pulling process. Nothing gives the scalp the sensation of being so thoroughly and effectively awakened as does this.

However, it does not require any extreme pulling process. I have in mind one man, who in his younger days, swung children around by his hair, hoping by this hair exer-

cise (and other means) to retain his luxurious hair growth. Today, at fifty, his head is sparsely covered with hair that is becoming still thinner.

How to Pull the Hair Correctly

The proper way to massage the scalp and remove dead hairs by this pulling process, is to insert the spread fingers into the hair as you would a comb, closing them tightly together as they are passed through it. Every part of the scalp must be treated thus. This method not only strengthens the roots and removes all partially dead hairs, but if the "finishing touches" to the drying process after washing are done in this way, it gives the hair a luster and wavy appearance that can be acquired by no other method.

Partially Dead Hairs Must Be Removed

Dead hairs should never be allowed to remain in the scalp; they should be plucked

as soon as they can be easily removed. Under these circumstances, if they are removed, another hair always grows from the same follicle or root sheath. But if this dead hair is allowed to remain until it falls out on its own accord, it often kills the root, and the hair never grows again. Therefore, when hair shows an inclination to come out in excessive quantities, pull out all that can be easily removed.

Results of Failure to Remove Dead Hair

Thousands of men, and women too, have suffered from permanent loss of hair simply on account of their extraordinary endeavors to retain dead hair in the scalp the moment that the discovery is made that the hair is coming out in excessive quantities. They are afraid to brush it—afraid to wash the scalp—afraid almost to touch it because of an erroneous impression that these dead hairs should be retained. They use every possible means in their endeavors to retain

these hair "corpses," the roots of which in many instances decay and kill the life of germs that otherwise would have blossomed forth into new hairs.

Dead hairs should be plucked out for the same reason that rotten apples are removed from the sound ones—that the corrupting dead is everywhere conveyed from the presence of the living.

A five-minute massage of the scalp, night and morning, given with a rotary motion, the tips of the fingers solidly placed on the scalp, also has a very beneficial effect. Pinching the skin and gently moving every part of the scalp back and forth, to loosen it, also stimulates the circulation in a most effective manner.

Illustrations of methods of massaging the scalp appear in Chapter X.

Mechanical Stimulation of the Scalp

One of the best and most effective methods of massage is by the use of a well made

mechanical vibrator, using a broad soft rubber disk or one with the soft rubber "fingers" or prongs.

The instrument affords a simple and very definite way of stimulating the circulation of blood in the scalp, and thereby facilitating the nutrition of the hair-follicle.

In fact, the direct aid of toilet accessories in the preservation and scientific care of the hair is a matter that concerns every individual who takes the slightest pride in his or her personal appearance.

The violet-ray also has a wide field of usefulness in maintaining a healthy condition of the hair and scalp. The effect of these rays as they exist in sunlight or artificial light rays, tends to arrest the progress of many scalp disorders.

CHAPTER IV

How to Select Combs and Brushes

THERE is altogether too much guess-work in the selection of the comb and the hair brush. The average individual usually purchases these accessories on the basis of their appearance—not for their practical utility.

The chief value of a comb is to separate the individual hairs so that the brush may reach the scalp and remove from it any particles of dust or dead matter that may have lodged there. Also to disentangle snarls in the hair, as well as to facilitate its parting.

What Combs Should Be Made Of

The comb should be made of hard rubber or bone, with perfectly smooth teeth, set well apart. Its teeth should be sufficiently

blunt to avoid scratching or injuring the scalp.

In selecting your comb be sure that there are no roughnesses or irregularities on the surfaces of the teeth, as these tend to scratch and tear the hair.

Combs are generally made with a fine half and a coarse half—the fine half being employed only in arranging and dressing the hair. The disentangling and combing of the hair should, of course, be done only with the coarse half of the comb, as to perform these operations with the fine half would tear and injure the hair and scalp. Metal combs, unless they are exceptionally blunt, should never be used.

The comb should never be used as an instrument with which to pick crusts off the scalp. All crusts must be removed by much more gentle and effectual means, as will be described in Chapter VII.

Above all things avoid the use of a comb on the tender scalp of a baby. In fact, un-

less necessary for the purpose of removing "nits" or lice eggs from the hair, a comb should have absolutely no place in the toilette accessories of an infant. For the injudicious use of the comb has been the cause of countless aggravated cases of eczema, and loss of hair in later life.

Combing the hair is valuable for two especially good reasons. It assists in the polishing process, and gives the hair-roots the benefit of the massage and strengthening influence secured from the slight strain upon the roots. This is not so important to most persons, because of the shorter hair quite generally worn, the value of a comb being confined entirely to arranging the hair.

Needless to say, the comb should be thoroughly cleaned every few days by immersing it in a solution formed by using a tablespoonful of ammonia in a pint or so of hot water. Soak the comb in this solution for from fifteen minutes to a half hour, then

scrub the comb with an old nail-brush until it is thoroughly clean. Rinse and set aside to dry.

Choosing and Using the Brush

The most important accessory of the hair toilet is the brush. This should be selected with great care—and *it should always be kept scrupulously clean*, so as not to constitute a possible source of infection.

The best kind of a brush has bristles well set in groups and rows rather far apart. The middle bristles of each group should be somewhat longer than the bristles on the outside of the circle. Brushes in which all the bristles are of even length, with the groups set close together, do not penetrate to the scalp as readily as the brushes made with “searching bristles.”

The brush used on an infant's head should have long, soft bristles, so as not to irritate or scratch the scalp. It should merely be

employed for polishing and smoothing the hair.

For older children, a somewhat stiffer brush will be necessary. Girls and women should use a rather fine, long-bristled brush.

Excellent brushes for men to use are the so-called "military brushes," of a fairly stiff texture. If used in a proper way, these help greatly to remove all dirt and foreign matter from the hair, leaving it lustrous, healthy and full of life. It is not necessary to have a pair of brushes, however. Any good single brush, used regularly and frequently will have as good value as the military brushes.

Wire brushes are entirely too stiff and unyielding to be used safely by many, though perhaps may be used by men whose scalps are sufficiently tough and rugged to stand the rather severe treatment that may result from such brushes. Even when carefully used the wire brush often irritates the scalp.

Hair brushes, like combs, must be cleaned

frequently and scrupulously. Many people complain that brushes become too soft for use after frequent washing, especially if hot water be used. If the brush be rinsed in a basin of water to which an ounce of alum has been added, the bristles will retain their stiffness. Lukewarm water with which a little ammonia or borax is mixed will cleanse a brush satisfactorily. The brushes should be held with the bristles in the water but with the backs out, else the latter will be ruined. Rinse in clear cold water, and if desired to sterilize the brush, use a four-per-cent. solution of boric acid. Dry the brush in the sun, with bristles down.

Brushing should always be very carefully and thoroughly done. Children should be taught the proper methods of caring for the hair, and encouraged to take pride in its healthful appearance.

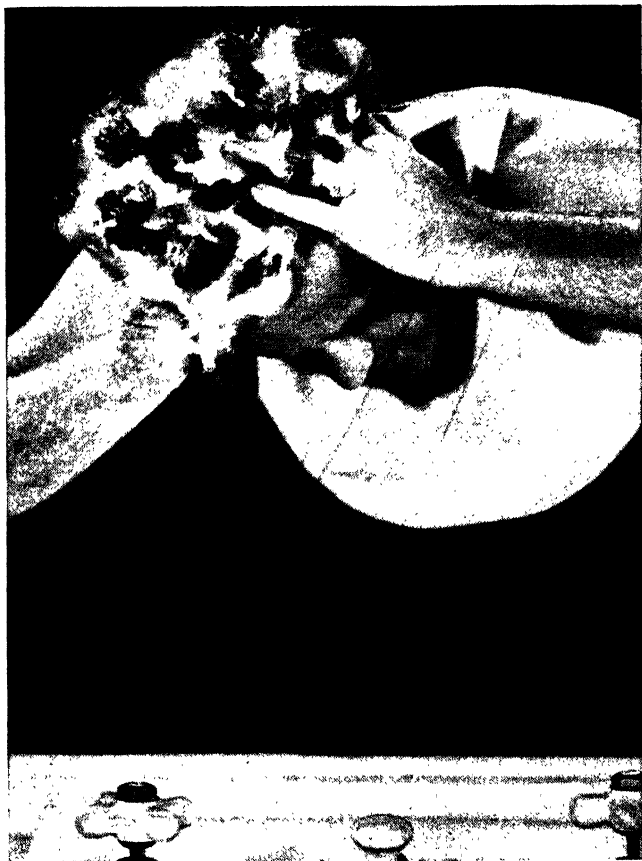
CHAPTER V

Facts About Soaps and Shampoos

HEALTHY hair is nearly always beautiful—beautiful because it has luster and life and elasticity. No matter what any purveyor of tonics and pomades may say to the contrary, the chief factors that make for beautiful, luxuriant hair are hygienic care and stimulation of normal circulation of the blood to the scalp to nourish the hair roots.

To maintain the scalp in the best condition of cleanliness, it is not advisable to wash or shampoo the hair over-frequently. The daily washing of the hair by men, or semi-weekly washing by women, often may cause a dry, brittle condition of the hair—the very thing they are attempting to avoid.

For shampoos—especially if the shampoo happens to contain too much alkali—have a



For men, to shampoo once or twice a week is essential to maintain proper cleanliness of hair and scalp.

tendency to remove the natural oil from the hair. This removes at the same time the luster and elasticity.

Therefore, if the hair is inclined naturally to be dry these repeated shampoos will often make its condition worse.

How to Shampoo the Hair

Unless there are some special reasons why the hair should be shampooed more frequently, it is not advisable for women with long hair to wash the hair oftener than once every week or ten days, and for men not more than once or perhaps twice weekly. Women with bobbed hair may shampoo their hair as frequently as do men, if they wish. There is no inherent difference in men's and women's hair and scalps. If however, the hair is very oily, it may be found necessary to wash more frequently. For additional cleansings, careful daily brushing and a thorough cleansing of the scalp with a soft cloth should be enough.



For women, the shampoo once in ten days or two weeks is sufficient to maintain proper cleanliness of scalp and hair. It is important to rinse the hair thoroughly of all soap before beginning the drying.

Pure castile soap makes an excellent base for a shampoo. Sometimes the addition of an egg to castile jelly, made by boiling the soap shavings in water, is excellent.

Tar soap also makes a good shampoo, but it must be of the best grade obtainable.

There are many splendid shampoos on the market, carefully prepared from excellent formulas, which will be found to fulfill all the purposes for which they are intended. Directions for the use of these shampoos are usually found on the labels.

As a general rule it is best to wet the hair with only a little water, parting the hair so that the scalp is exposed, and to apply the shampoo. This should be rubbed thoroughly into the scalp with the finger-tips, from time to time adding more water so as to make a good lather. After the scalp has been gone over in this way, it should be rinsed several times, until all the soap is thoroughly removed.

The washing water should be warm, as

should the first rinsing waters until all the soap has been removed, when it may be used cool, the final rinsing water (unless it causes discomfort) to be cold, so as to close the pores.

Be particularly careful in drying the hair to get all possible moisture out of it, and, if opportunity offers, finish the drying by exposing the hair to the fresh air and the sunshine, at the same time using the pulling process previously described.

If the hair is naturally curly, it should never be brushed immediately after shampooing, as this has a tendency to make it straight and stringy.

The best way to care for straight hair is to wait until the hair is nearly dry—using warm towels assiduously in the meantime—and then pull the hair slightly all over the scalp and comb it with a wide spaced comb. This will make the hair naturally fluffy, and give it an opportunity to curl in a normal way.

How to Dry Long Hair

To dry long hair and avoid tangling it is sometimes a very difficult undertaking. But if the strands of the hair are taken up separately, and rubbed from the roots down between the hands covered with warm towels, it will be less difficult. The hands should move down gradually to the very tips of the hair, stretching the hair to its extreme length. When the hair is nearly dry, assist the process by using the fingers as a comb, closing them tightly on the hair as they are withdrawn, and exerting gentle traction on the roots. This treatment, as previously stated, will greatly strengthen the attachment of the hair to the scalp, as well as give the hair a marked increase in lustre.

Hair if properly cared for should furnish its own emollient, but if you must have an application, a few drops of fine olive oil, or harmless dressing may be used after wash-

ing, if the scalp has a tendency toward excessive dryness. But always remember to give the hair ample chance to dry thoroughly before dressing or braiding it.

If the hair has a tendency to split at the ends, or to become rather brittle, its texture can frequently be restored by the use of a little oil rubbed through the length, and on the ends of the hair.

The best way to apply the oil is to moisten the hand in brilliantine, or a pure olive or cocoanut oil, and then rub the hair back and forth with a rolling motion between the palms, taking only a small strand of hair at a time, so as to insure the hair being thoroughly treated all the way through. A surprising degree of luster can very frequently be attained in this way.

The Dry Shampoo

Once a week or oftener the scalp should be treated to a dry shampoo. A soft cloth should be used for this purpose. Part the

hair and rub the exposed scalp briskly and vigorously with a bit of the old muslin or linen that you have wound around the finger tip.

The entire scalp can be gone over in this way and stimulated and cleaned. The friction is very beneficial to the scalp, while the rubbing removes dust and dirt.

This form of shampoo is especially good for invalids, or for those subject to neuralgia, who would not be physically able to bear the fatigue or the possible reaction which might follow prolonged wetting of the hair.

Where a scalp is unusually oily, moistening the cloth in a little alcohol and then thoroughly rubbing the scalp with this often will help to overcome this trouble.

The Corn-Meal Rub

Many people advise the use of corn-meal, orris root, or special powders, to be sprinkled into the hair, and then brushed out again. This I consider a very harmful



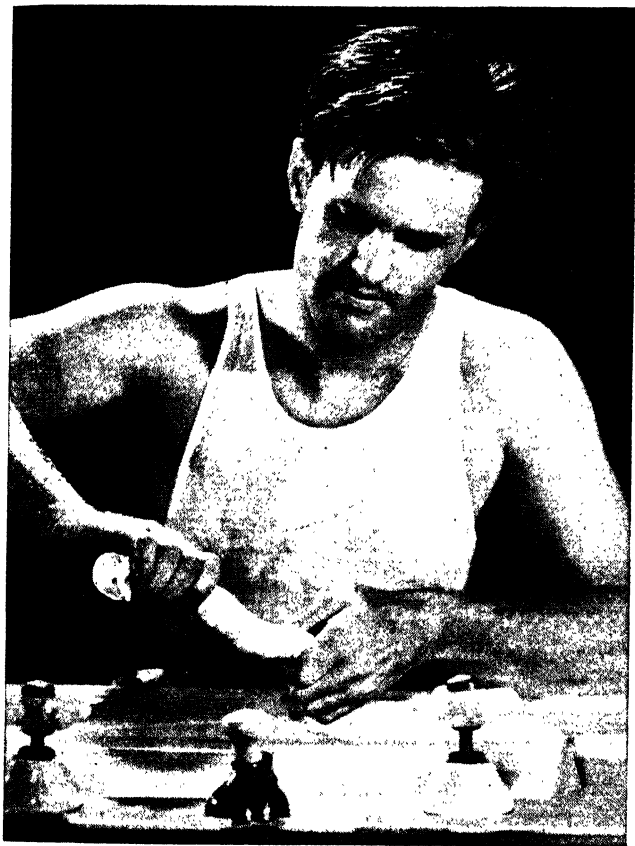
The dry cleaning or dry shampoo may be taken regularly once or twice a week. Part the hair, and with a soft cloth wound around the finger, rub the part free of all scurf and dust. The entire scalp is to be gone over in this way.

practice, for while it is very easy to shake the powder into the hair, it is a very difficult matter to remove it. You may get quite a quantity of it out by careful and vigorous brushing with a brush whose bristles penetrate to the scalp, but the little that remains may prove a source of irritation. For it combines with the scalp oil and with the perspiration and the dandruff that the skin is shedding all the time, and tends to form a deposit that may choke up the pores of the scalp and interfere with their action.

The oil necessary to give the hair its lustre and gloss is thus choked back, which still further interferes with the proper nutrition of the hair.

Hot and Cold Applications

The use of hot and cold water, alternating from one to the other, is about the strongest stimulant to the circulation of the scalp that can be used.



Alternate hot and cold applications provide an effective means of stimulating circulation of the scalp and thus restoring hair health.

Very warm water or heat of any kind applied to any part of the body draws the blood to the surface, and thus greatly aiding in the elimination of impurities through the skin pores. Cold water has an opposite effect, closing the pores and forcing the blood inward. The circulatory system being supplied with "stops" like the plunger of a pump, the blood always travels in one direction. Therefore, any local stimulant to the circulation forces the venous blood inward toward the heart and the new arterial blood flows in its place.

The hot application draws the blood toward the surface; the cold drives it back and onward in its travels to the heart, thus actually creating practically an independent and vastly accelerated circulation of the blood wherever used, and the scalp, when thus treated, unquestionably reacts in greatly stimulating the hair growth.

"Hot-air blowers" for drying the scalp,

frequently used in hairdressing and beauty shops, are undesirable for the hair and scalp, as they sometimes produce excessive dryness of the scalp and in a few instances cause brittleness of the hair. They also occasionally produce other results which are undesirable.

Time for Using Hot and Cold Treatments

The best time to treat the scalp is immediately after shampooing. Have the temperature of the heated water as hot as can be borne, and the other as cold as possible without using ice. Hot and cold wet towels can be applied in the same way. This latter method is better in case the hair is very thin, or if a bald spot is being treated. The change from hot to cold should be made from three to six times during each treatment. Each application should be allowed to permeate the entire surface of the parts treated before changing to the other.

The Selection of a Soap

A convenient method, for using alternate hot and cold applications, is to immerse the scalp in a bowl of water as hot as can be borne for about thirty seconds and then, immediately after having pressed as much of the warm water as possible from the hair with the palms of the hand, change to very cold water. Continue this process until you have changed from hot to cold three times.

I cannot refrain from repeating that the greatest possible care should be taken in the selection of the soap used for cleansing the scalp and hair. If there is an excess of alkali in the soap, it will usually create a dry condition of the hair.

The best soaps are those made of vegetable oils, incorporating only a small amount of alkali.

The matter of perfume is entirely a question of taste. I might emphasize, however, that frequently a heavy perfume may cover

a very rancid piece or poor grade of soap. The finest soaps usually are only faintly perfumed.

Where a good *antiseptic effect is desired*, a shampoo with tincture of green soap (procureable in most drug stores) will be found admirable. This particular soap is especially valuable in oily conditions of the scalp, where its high alcohol content tends to remove the excess of oil. For the same reason, however, it should not be used where the scalp is excessively dry.

If all these points are given careful consideration, and the suggestions outlined in this chapter are faithfully followed, I would be almost willing to guarantee that many of the most unpromising hair and scalp conditions can be overcome, and a clean healthy scalp, with beautiful, well-cared-for hair, be preserved to the end of life.

CHAPTER VI

The Cause of Hair Troubles

IF THERE is any one fact in connection with the hair that is definite and certain it is that hair health depends very largely upon physical health. If the general health is good, if the body is well nourished, with an abundant and constant supply of all the necessary minerals and vitamins, the hair undoubtedly will have a better chance for life and vigor than if the body is toneless, anemic, and generally run down.

The hair never looks well when one is ill. In typhoid fever and other greatly weakening diseases it is frequently lost entirely. Barring local instead of constitutional causes and heredity, falling hair and approaching baldness usually indicate that the bodily powers are waning. Hard work or dissipation—anything which will produce a

nervous strain or which tends to undermine the general constitution, will show clearly its effects upon the hair.

One of the leading causes of hair loss and unhealthy hair and scalp is the same condition underlying most other manifestations of ill health—toxemia. This is a condition in which the blood and lymph are charged with and all the cells in the body poisoned by retained waste products, acid and toxins absorbed from the intestinal tract. With a pronounced degree of toxemia there is certain to be inadequate nutrition of the scalp and of the hair-roots, with lifeless hair and falling hair resulting. Hence to insure a better condition of scalp and hair it is important that the blood be freed of its encumbrances of harmful elements and supplied with all elements required for normal nutrition.

Dr. C. Henri Leonard, in speaking of this subject, says:

“Hair is just as much a living physiologi-

cal process as the beating of the heart; both depend upon circulating blood for their food, and when this is denied them, both cease to live.

“Even the heart receives no life from the blood it propels throughout the system, except it first force it into the arteries that feed its muscular substance; it draws no nourishment from the mass of blood that surges through its ventricles every twenty-four hours; it would cease to beat instantly if left alone to this for its life.

“So, too, the hair; concentrate all the blood in the system at its roots, and it will get no nourishment unless the blood first traverses the minute capillaries that go to feed its papillæ, which furnish life and substance to the cells ceaselessly at work therein, building the hair-shaft cell on cell.”

Hair Indicates Condition of Health

A horse when sick loses his fine lustrous coat of hair; a diseased dog shows his condi-

tion, in many cases by his dull coat. In fact, all through the animal world this extremely intimate connection of bodily health with the hair health is clearly proven.

The fur of fur-bearing animals is practically worthless for human use unless at the time the animal is killed it is in a good state of health.

Therefore, let it be distinctly understood that, in many cases of loss of hair, but little if anything can be accomplished until the necessary attention has been given to building general constitutional vigor, through proper diet, exercise, breathing, bathing, etc.

For information along these lines the reader may refer profitably to my other books, which treat in detail the different subjects pertaining to the culture of general physical health.

In contradiction of the theory that the condition of the general health, attention is

frequently called to apparently weak, even emaciated persons who have thick hair.

Some very emaciated persons are weak simply because they have never developed their bodies. Notwithstanding their weak appearance, however, they possess great vital strength, and being proud of their hair, it is naturally given a great amount of attention. This of course vastly improves it, and the body in many instances can be similarly improved by proper attention. It would also be well to remember that such fine heads of hair can be cultivated or developed, just as can any part of the body.

An athlete proud of his arms, spends most of his time in feats requiring their use, and frequently he develops well-muscled arms while the other parts of his body have remained undeveloped and unshapely.

Constant attention given to an ordinary head of hair will in nearly every case make it thick, heavy and lustrous, just as proper attention to the development of the body will

greatly increase it in suppleness, strength, and symmetry.

This is an argument I do not remember ever to have seen in any medical work or book on health or hygiene with which I happen to be familiar. A little thought and observation will convince of the truth of this, however.

Effect of Fever on Hair Nutrition

Everyone has observed that during the course of an exhausting fever—or after convalescence has been established—there is a pronounced tendency for the hair to fall out. Sometimes this continues to such an extent that the person becomes completely bald. And often this condition of baldness persists for life. This condition is brought about by the burning up of the layer of fat that lies between the scalp and the tables of the skull, in which the hair roots are imbedded, and from which they draw their supply of nutriment.

When during the progress of the fever this layer of fat is consumed to supply the demands of the body for heat and energy, there is nothing left for the hair follicle to cling to. Consequently the hair drops out for lack of support and nutriment.

For the thing that makes hair possible at all is that it derives a definite proportion of its nutriment from the layer of fat in which its roots are imbedded.

So when this is lost, the hair is lost. Nor will it come back again unless the layer of fat comes back again—or, in other words, until the normal nutrition of the scalp is restored.

Loss of Hair in Various Diseases

For somewhat similar reasons there is a pronounced loss of hair in the second and third stages of syphilis. The reason is that the poison of the disease affects the general nutrition—and general nutrition affects the local nutrition. Consequently the hair, be-

ing one of the least vital appendages of the body, and one of the appendages we can best do without, is the first thing to be sacrificed.

Nature therefore cuts off the supply of nutrient material, so that she can save her energy for the repair of more vital organs.

In various of the skin diseases—in addition to the diminution in supply of available nutrient—there is actual destruction of the hair follicles caused by parasites, germs, and other causes, that produce diseased conditions. These will be dealt with in a separate chapter.

The thought I desire to leave clearly in your mind now, however, is that no person who desires to keep his or her hair beautiful, lustrous, and full of life can afford to neglect the fundamental laws of eating, drinking, sleeping, and exercise that make for robust physical cleanliness and general hygienic welfare.

CHAPTER VII

Dandruff

ONE of the most common of all skin and scalp diseases is dandruff—called by medical men seborrhea.

This is a non-inflammatory disease of the scalp in which there is a throwing off of the horny layer of the scalp, producing powdery gray or white scales that heap up into crusts. There often is a considerable degree of itching with dandruff, and in its severe forms it occasions a very perceptible loss of hair. The hair is usually dry and lusterless, and throughout its entire length tends to be covered with white or gray scales, which cling to the hairs like powder or bran.

In very bad cases these scales drop off the hair and scalp and lodge on the collar and shoulders of the coat or dress, showing as unsightly dry whitish flakes.

If you examine a “dandruffy” scalp with the aid of a magnifying glass you will notice that the surface is covered with scales. The scalp is dull white in color and seemingly free from evidences of inflammation. While the entire surface of the scalp is generally involved, occasionally there will be some apparently normal areas found. Blood crusts resulting from the tearing of the scalp by the fingers or comb to relieve the itching are frequently present.

When Does Dandruff Begin?

Dandruff occasionally is seen in children of six to ten years, but usually begins at just about the age of puberty. There is no known definite connection, however, between the two.

The disease may last as long as its owner lasts. Men are subject to it more frequently than women. Any condition that lowers the general health and interferes with the nutrition of the scalp through the capilla-

ries, or that causes an increase of toxic products in the blood, such as follows the absorption of poisons in the intestinal canal, etc., may be the cause of dandruff.

Fever, anemia, tuberculosis, rheumatism, syphilis, and liver and kidney disease may also be active causes, while digestive disturbances, constipation, and liver disorders undoubtedly aggravate the condition. Or overwork, nervous and mental strains, and living in bad sanitary surroundings may also be considered unfavorable.

Chronic Irritation May Cause Dandruff

Any irritation produced by mechanical, chemical, or parasitic causes may produce dandruff. The scalp can be mechanically irritated by the use of wire brushes or by coarse bristle brushes, by fine toothed combs, or by the habit of scratching with the finger nails.

Chemicals such as are often found in hair dyes and "restorers," as well as the irritat-

ing influence of so-called "elixirs," "tonics" and pomades, leave the scalp in a condition in which dandruff often develops.

Many shampoos contain an excess of free alkalis. These have an extremely drying effect upon the scalp and hair, and should never be used. The reader should refer to Chapter V for information on the selection of soaps and shampoos.

Within comparatively recent years the theory has been advanced that small bacilli, called by the Germans "Flaschenbacilli" (bottle bacilli) are largely responsible for dandruff. These bacilli are of three different shapes, spherical, banana-shaped, and pear or bottle-shaped. Hence the German name "bottle bacilli."

Is Dandruff a Contagious Disorder?

Many claim that dandruff is readily communicated; that a large proportion of cases are contracted in barber shops, or in hair-dressing establishments, or by using toilet

articles that have been infected by a victim of dandruff. This conclusion is undoubtedly erroneous, in a great majority of cases at least.

At any rate, the condition often results in or is followed by baldness. Between the twentieth and thirtieth years a period of from two to seven years of dandruff and dryness of the hair baldness is likely to develop. It is thought that the germ of dandruff in many cases at least, ultimately destroys the hair-roots and the hairs fall out.

The first thing to be accomplished, if a cure of dandruff is to be secured, is to build up the general health. Great care should be taken to regulate the diet, to secure active elimination from the bowels and skin, and to exercise freely—especially in the open air.

The scalp should be kept scrupulously clean—not only by washing and shampooing, but also by vigorous brushing and careful massage.

One of the most effective remedies to kill

the “germ” of dandruff is found in improving the bodily health and in the adoption of regular methods of cleansing the scalp—washing, brushing, etc. But if you must have an application to kill the germ, the following is a good hair wash:

Mercury bichloride	10 grains
Glycerine	1 dram
Alcohol	8 ounces

Mix and use as a scalp wash night and morning. This is *poisonous* if *swallowed*. Sulphur may be used if the scalp becomes too dry. It is best used in the form of an ointment—the so-called “sulphur-cream,” and may be used night and morning in place of the wash. Sometimes the addition of two or three per cent. of salicylic acid is recommended, or tincture of green soap, or powdered borax used as a soap.

A pomade that accomplishes favorable results in some cases is composed of:

Precipitated sulphur	1 drachm
Lanolin	2½ drachms
Glycerin	2½ drachms
Rose water	2 drachms
Castile soap	10 grains

This should be rubbed well into the scalp three times weekly (once or twice a week by women with long hair), after a thorough washing of the hair.

These results will be even better if immediately before the hair is washed a thorough shampoo with crude oil (petroleum, entirely unrefined, just as it comes from the ground) is used.

Sometimes bichloride soap gives quick and excellent results.

A frequently used preparation for cases of dandruff and parasitic skin affections is:

Unnar spiritus capillorum	
resorcin	25 grams
Castor oil	25 grams

Alcohol (95%)	750 grams
Eau de Cologne	200 grams

A very simple dandruff lotion consists of Ande petrolatum 1 dram, alcohol 1 ounce.

Many people get excellent results by massaging the scalp thoroughly with coconut or olive oil, or plain vaseline. This is thoroughly rubbed into the scalp, after which a towel is wrapped around the head to protect the pillow, and the oil is left on until the following morning,—when the head is given a thoroughly cleansing shampoo.

If a towel is applied hot and wet, and replaced a few times to continue this heat treatment ten to fifteen minutes before putting on the dry towel, even better results will be secured.

It is especially advisable not to leave any one application of the oil on too long, as it has a tendency quickly to become rancid, which would tend to make the condition in-



The oil massage—of great benefit in dandruff associated with a dry scalp—is most conveniently taken just before retiring. After the treatment the head should be wrapped with a towel to protect the pillow.

finitely worse than it was before. All added oil should be removed at least every third day, by suitable shampoo.

The repeated application of this treatment, however, if persisted in for a reasonable length of time will produce results that are highly gratifying to all who are troubled with dandruff—especially if this dandruff is of the scaly variety associated with a dry condition of the scalp.

For "Oily Dandruff"

The more oily the scalp, the more frequently it will have to be washed. Tincture of green soap is excellent in the oily variety of dandruff.

In some cases once a week is often enough to wash the hair. In others the hair and scalp must be shampooed every day for a while in order to get results.

The treatment of oily scalp is considered at greater length in Chapter VIII.

Parasitic Diseases of the Scalp

There are many parasitic diseases of the scalp which are quite prevalent among those who do not maintain a high order of cleanliness—or even among those who may come contaminated innocently by contact with those infected—which can be removed only by distinct antiseptic treatment. For these diseases are doubtless due to germ origin, self-propagated or acquired, and the germs must be destroyed before the condition can be cured.

Among these parasitic scalp diseases is *favus*, which is characterized by the formation of yellow crusts on the scalp, with baldness occurring in irregular patches and a peculiar mousey odor exhaling from it. There is a great deal of itching associated with this condition. This is a highly contagious disease, and it is exceedingly common among children of the poorer classes.

In order to cure this condition, it is nec-

essary to keep the whole scalp soaked in olive oil for a day or two, according to the thickness of the crust. In some cases it is desirable to add carbolic or salicylic acid, in two per cent. strength. For this purpose, any pharmacist will compound a mixture of twenty grains of salicylic acid and two ounces of olive oil. Sometimes it is necessary to pull the hair out and apply an antiseptic solution to the parts from which the hair has been cleared away.

Ringworm is another parasitic disease of the scalp which is very difficult to eradicate, and which may cause permanent baldness. This is because of the fact that the parasites enter the hair follicles and penetrate deep into the skin where it is very difficult to get at them. Many cases are contracted from others, children acquiring the disease through using one another's combs or hair-brushes. The patent hair clipper is said to be one of the most active sources of the spread of ringworm.

The best ways of killing the parasite are by painting with tincture of iodine accompanied by frequent washings with bichloride soap, and by applying the sulphur ointment previously given.

The Head Louse

One of the most distressing conditions that afflicts human beings is the presence of lice in the hair and on the scalp. These insects gained a great deal of unenviable notoriety through the immense amount of trouble they caused during the Great War. In fact infection with lice among the soldiers was aptly described as one of the "minor horrors of war." Impetigo often accompanies head lice. This is a condition of scales and crusts, which quickly dry up and give place to thick, brownish crusts or scabs. It is one of the most common skin diseases among school children, and among boys forms one variety of "foul shave". In the combination lice and impetigo, when

neglected, the hair becomes matted together by the dried secretion.

There are satisfactions, however, with head lice—their presence is easily recognized, and their absence is very readily insured.

Perhaps one of the quickest ways to accomplish this is to use crude petroleum, or common kerosene oil mixed with sweet oil, or oil of sassafras or paraffin oil. The hair should be saturated with the selected solution at night, for a day or two, and then washed thoroughly in the morning with an abundance of soap and water. This will almost invariably destroy the lice and prevent the “nits” or eggs from hatching out. Sometimes it is necessary to remove the “nits” from the hair by the use of a fine comb, being careful not to injure the scalp thereby. This should be done after washing, but before removing the lather.

As a further precaution it would be well to wet the scalp with kerosene or paraffin oil

for a few days, to insure the death of any louse which may have hatched out, cautioning the individual to be sure and keep his head away from the fire.

It will be seen from all this that most skin diseases are due to uncleanness and lack of proper hygienic precaution. It is obvious, therefore, that to prevent any of these diseases it is necessary to observe the strictest rules of cleanliness, and to use good common sense in eradicating the evil effects of any contamination.

CHAPTER VIII

Dry Hair, Oily Scalp and Split Hair

THERE are three conditions of the scalp and hair so common and so little understood that I believe some consideration of them may be well worth while.

These conditions are dry hair, oily scalp, and split hair.

Dry hair and scalp is perhaps the most frequent of all hair and scalp troubles.

To a large extent these are due to errors of diet—especially those errors that tend to produce over-acid conditions of the system.

Over-indulgence in meat, coffee, candy and sugars, condiments, including pickles, the use of white bread, crackers, “pearled” barley, unscoured oat meal, uncoated rice, and foods which have been deprived of the mineral salts that maintain blood alkalinity,

frequently is to blame for dryness of the scalp.

In fact, some authorities claim that the "scurf" of dandruff—when it is cast off profusely, and in large flakes—is nothing more or less than a mixture of the excess acids of the system and the oily secretions of the hair-follicle.

Treatment for Dry Hair

It is obvious that, if this is the case—which I firmly believe it is, in a large number of instances—washing the hair and scalp is merely of temporary benefit.

Washing will remove that material which has been permitted to accumulate. But it will not overcome what must be regarded as a distinctly systemic condition.

Careful regulation of the diet is necessary in all these cases if any permanent benefit is to be secured.

To remove the accumulated uric and other acids from the system in the shortest space



The oil treatment for dry hair can be given by a medicine dropper—the hair being first parted and the oil then rubbed into the part, this to be repeated all over the head. The oil is to be applied to the scalp only—never to the hair.

of time I have found that an exclusive milk diet is most helpful. Other foods should not be used with milk—although acid or sweet fruits can be excepted.

Milk is one of the richest of all foods in lime salts and with the other alkaline mineral salts—in a form to be readily assimilated by the system and carried into the blood, for remineralization purposes—that is, to resupply the blood with its lost store of mineral salts. But unless the diet is planned to allow for considerable milk, don't use it in addition or with your regular meals. Those not familiar with methods essential in an exclusive milk diet, should consult books on the subject.

Dry or scaly scalps will respond to proper regulation of the diet—sometimes within six or eight weeks—especially if reinforced with the daily application of olive oil or vaseline—rubbed carefully into the scalp with the tips of the fingers.

It should be noted that the toxemias re-

sponsible for severe colds and fever tend to dry the scalp very rapidly.

Daily massage of the scalp is one of the best of all methods of preventing a dry scalp, as massage helps to bring about a better blood supply to the parts. A better blood supply brings an increased amount of nutrition. And an increased amount of nutrition brings to the scalp and hair-follicles their normal nourishment and oil lubricant.

Systematic brushing of the hair often will have the effects of increasing local circulation in the scalp and oil secretion by the scalp glands, and of keeping the oil well distributed over the hair.

See also Chapter XIV, for preparations for local application in this condition.

What to Do for Oily Hair

No one knows the exact cause of oily hair. To say that it is due to over-activity of the sebaceous ducts that furnish the nat-

ural oil for the hair is merely to say that too much of anything is too much—without in the slightest degree explaining why there should be too much.

The fact of the matter is that when the health of certain people, with what is called a certain “idiosyncrasy,” becomes abnormal, dry, scaly scalps develop. Others may have or may develop an oily condition of the scalp.

Whatever its origin may be, in order to overcome oiliness one of the first things is to try to reestablish a normal condition of scalp-health—a very large part of which depends upon general health. Every precaution must be taken to keep the system in a high state of nutrition—and especially in a perfect condition as regards elimination from skin, kidneys and bowels.

This will tend to reduce the amount of toxic material in the system and improve the general condition of health.



In drying long hair, one may take a single strand between towel covered hands and beginning at the roots of the hair rub down to the ends as here illustrated.

Fresh Air an Essential

The hair and scalp should be exposed to the air and mild sunlight as often as possible—separating the strands so that the air and sun rays may penetrate to every portion of the scalp.

It is best to pull the hair across, strand by strand—so as to permit the air and the sunlight to strike every square inch of the scalp.

This procedure, if persistently carried out, sometimes has a very remarkable result.

In addition, the hair should be washed frequently with a pure soap and warm water, followed by a thorough rinsing in clear water.

It frequently is admissible to wash the hair—or rather the scalp—in *cold* water—just as cold as can comfortably be borne.

This has a wonderfully tonic effect on the nutrition of the scalp, as it brings a greater supply of blood to the parts—and reinforces the local nutrition of the hair follicle.

It is always well to bear in mind that the scalp should not be massaged too vigorously where there is a tendency towards oiliness, as over-vigorous massage frequently perpetuates and increases the very trouble you may be attempting to eradicate. Too much massage, too rough treatment of the hair sometimes destroys the hair-roots.

The same thing is true of the use of electric fans or electric dryers that develop a current of hot air. They may seem to work well for a while, but the after-results sometimes are not desirable.

Try Always to Keep the Scalp Loose

One of the chief aids to hair health is a loose scalp. Whether the tendency is toward excessive dryness, excessive oiliness, dandruff or falling hair—the loosening of the scalp by properly applied massage is always a help.

The proper method of massage, in order to bring about this condition, has been fully

described and illustrated in Chapters III and X. I mention the matter here, in order to emphasize its importance.

An application very useful in case of excessive oiliness consists of:

Witch hazel	2 ounces
Alcohol	2 ounces
Distilled water	1 ounce
Resorcin resublimated	10 grains

It was stated in Chapter V that tincture of green soap should not be used too frequently in case of dry hair because it removes oil from the hair and scalp. Because it does so, it is a good shampoo soap for occasional use when there is an excess of oil.

Bobbed Hair Helpful

Very often excessive dryness and excessive oiliness refuse to yield to treatment unless the thick, heavy hair is cut and a better circulation of the scalp is perfected.

This only stands to reason, and is readily comprehended on the grounds of hygiene. One sees far fewer excessively oily scalps and heads of hair today, with the bobbing of hair so general, than were seen formerly.

So, while woman's crown of glory may well be in her hair, this self-same crown may prove a tremendous handicap if the local nutrition of the scalp is involved.

And, after all, bobbed hair is eminently sensible, and can be made really artistic.

Violet Rays for Normalizing the Scalp

Good results are secured from time to time in oily conditions of the scalp by the use of the violet ray. The high frequency electric current, generated in a vacuum tube, and applied regularly to every part of the scalp for, say, ten minutes morning and evening, has produced most satisfactory improvement in many hundreds of cases.

This is readily explainable when it is understood that the violet ray stimulates nutri-

tion, helps get rid of waste, and overcomes local toxemia.

As a last resort tonics with an alcohol base may be used cautiously in oily scalp conditions. The alcohol "eats up" the oil, and tends to dry the scalp because of its inherent affinity for fats.

It would be well not to depend on these tonics. Use them with extreme care, and only for short periods of time.

For Split Hair

It is ordinarily considered that, with split hair, there is nothing that offers radical correction except repeated clipping of the split ends.

About one-half to one inch of the tips of the hair should be scissored off, repeating this every two weeks for three or four months. It will be found at the expiration of this time that the hair will grow freely, without any tendency toward splitting.

One of the greatest English hair dressers,

who has worked at Buckingham Palace in his capacity as hair dresser to the court, has devised a method which has been tremendously successful.

This method is simplicity itself. It consists merely in soaking the tips or ends of the hair in a shallow bath of olive oil before retiring, twice a week, and then drying the hair thoroughly in a warm towel.

The hair can then be put up in a loose braid, or confined with a ribbon, so as to prevent tangling.

If this treatment is kept up for six months the tendency of the hair to split will be gone.

This has worked in hundreds of cases, some of which have resisted almost every other method of treatment.

But split hair is so less likely to occur in the case of bobbed hair that it has ceased to be a matter for much concern.

I believe much good will come of a more general knowledge of these important de-

tails in the care of the hair, not only for their importance to every man and woman who desires to present a well-groomed appearance, but also because they are simple and absolutely practical.

CHAPTER IX

“Falling” Hair

IF HAIR didn't fall out periodically, it couldn't come in. For the new vigorous young hair grows out of the shaft made vacant by the falling out of the old hair. It is only when it falls out more rapidly than it grows in that there need be any apprehension about “falling hair.”

The causes of hair loss may be either local or constitutional.

It is local when any scalp disease exists or when dandruff has accumulated in excessive quantities. In most cases the important local causes are uncleanness and neglect in allowing partially dead hair to remain in the scalp.

If constitutional, it may be any disease which tends to lessen the vital forces. This is especially applicable in fevers and syph-

ilis. It may also be brought about by excessive dietetic indulgences, which cause the blood to be overloaded with fat-forming globules, while a deficiency exists in the elements which feed the bones and hair.

The presence of dandruff is also a prominent cause for hair loss, and must be vigorously treated if any permanent relief is to be secured.

In this connection I want to sound a warning against patronizing barber shops or hair-dressing establishments which are not absolutely above suspicion in regard to sanitary conditions in general and especially sanitary care of all instruments and articles that come in contact with patrons.

When the cause is local especial attention must be given to the care of the scalp by massage and by the pulling process, through cleansing, and in the various ways mentioned in the chapter on baldness.

If the cause is constitutional, in addition to local care the general physical health



**Lifting and pulling hair to air scalp and stimulate growth
by removing dead hair.**

must be improved by physical culture, wholesome diet, regular bathing and correct, hygienic living.

If the hair is of extremely fine texture—as is frequently the case with flaxen-haired children—it often is possible to increase the apparent thickness or coarseness of the hair by the pulling process and by occasionally clipping the ends.

Falling hair is a natural process, with natural causes; or it is an abnormal condition that must be corrected by treatment.

If the hair continues to come in thickly, and there is no apparent diminution in the mass of the hair, you will know the falling is perfectly natural, and need pay no attention to it beyond the ordinary hygienic care which is necessary at all times.

If, however, the hair is becoming increasingly thin and little patches of scalp show through, you had better become exceedingly energetic in some of the ways outlined in the next chapter.



In using the hair pulling treatment begin at the front of head; gently pull the hair all over the scalp. This thickens the scalp tissue, brings more blood to the hair roots and adds to the vitality of the hair.

CHAPTER X

Baldness

THERE are three different kinds or classes of baldness: premature baldness, baldness due to disease or lack of proper care, and the baldness of old age.

For the first two varieties there is much to be done. The last usually is permanent.

Premature baldness begins any time before middle age, and does not seem to be influenced by either local disorders or general conditions of health. In point of fact, some of the most powerful athletes in the world—men who have never known a sick day in their lives—may be prematurely bald.

In many cases this condition is hereditary—fathers and sons of many generations losing their hair early in life.

It is quite common among those leading sedentary lives, especially with brain work-



In taking the hair pulling treatment for men, the hair is grasped between the fingers and, beginning at the front of the head, lifted and gently pulled all over the scalp. When the hair is thin or of very fine texture, roughness must be avoided.

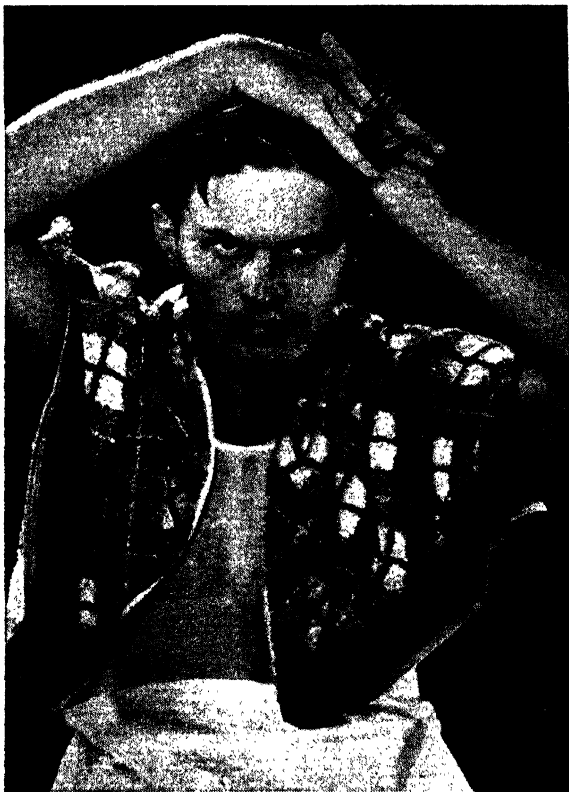
ers, possibly because of the fact that the nerves supplying the scalp are directly connected with those supplying the covering of the brain. Therefore an irritable condition of the brain, due to congestion, might well interfere with the normal nutrition of the hair. Lack of care and insufficient attention to cleanliness and hygiene of the scalp is a frequent cause.

Great depression of spirits, worry or mental anxiety also are frequent causes of premature baldness.

In the following paragraphs are discussed various conditions causing or inducing loss of hair, and the methods by which baldness may be combatted. Faithful treatment is essential to success.

Baldness in Women and Men

There are more baldheaded men than there are baldheaded women. There are many reasons for this, but the chief reason is that women do not wear their hats so



For the perfectly healthy scalp having hair of thick and vigorous growth or of coarse texture, the hair pulling treatment can be more vigorously given by lifting and pulling the hair with interlocked fingers, as illustrated in this photograph.

close-fitting as do men, so as to interfere with the circulation of the blood in the scalp and in the follicles nourishing the roots of the hair.

Hats for women usually are not so tight-fitting as those for men, so that the surface of the scalp is very much better ventilated and perspiration does not get a chance to dry out and combine with the dead matter thrown out by the scalp, to form scales.

Women give more attention to brushing and combing the hair than men do, and women have more subcutaneous fat than men have, and thus their hair is preserved longer. You will remember I pointed out that upon the depth of the layer of tissue between the scalp and the tables of the skull depends the nutrition of the hair follicle.

Therefore, any treatment which would have a beneficial effect in retarding or preventing the development of baldness must stimulate the increased growth of tissue at the roots of the hair.



To secure the best results from massage it should be performed systematically.
Begin at the front of the scalp, using a rotary movement.

Inflammatory and Parasitic Disorders

All diseases in which there is much fever have a tendency to burn up tissue. All local inflammations likewise consume tissue, and all irritations produced by parasites tend to dissipate it.

From this it will be seen how important it is that where any contagious or parasitic disorder exists, the condition must be corrected by appropriate local and general measures. Among the local measures may be mentioned the use of the antiseptic lotions, pomades, shampoos, and washes, described in Chapters VII and XIV.

Uric Acid as a Cause of Baldness

An excess of uric acid in the system often causes drying and brittleness of the hair, which leads to baldness. Indeed, it is quite possible that the uric acid may be exuded upon the scalp, escaping from the body along the lines of least resistance, eating up the tissue layer and killing off the hair in

its exit. I have seen great benefits from the milk diet treatment in this condition. For an exclusive diet of milk and fruit tends to overcome the formation of uric acid, flushes out the kidneys, washes the poisons from the blood, and brings about a better general state of health.

Considerable investigation has been made of the influence of the glands of internal secretion upon the color, quality, health and life of the hair. The adrenals are known to greatly influence the color of the hair, as explained in Chapter XI. These glands also the thyroid and the gonads or sex glands have much to do with the quality and health of the hair. And the pituitary gland (in the head) apparently has some control over the life of the hair. Hair has been caused to grow quite abundantly upon bald heads by injections of pituitary extract—in selected cases showing other definite indications of pituitary dys-function.

Those predisposed to baldness should

commence from very earliest years to prevent the fall of hair. Parents who are losing their hair should instruct their children in the proper care of their scalps. As I have frequently said, it is necessary to maintain the fullest vigor of the body if the vigor of the hair is to be maintained. Life in the open air, proper eating of the right kind of food—always thoroughly masticated—sleeping with the windows open, winter and summer, and an active, energetic life will sometimes work wonders. Any digestive disorder should be invariably corrected, and all constipation should be overcome.

To massage the scalp once a week, as is sometimes done, is not enough. Quicker results may be gained if the individual will massage his own scalp five or ten minutes every day, combining this liberally with the pulling process.

Vigorous brushing with a long bristle brush for a few minutes every morning and evening is an easy and effective way of bringing an increased amount of blood and



This photograph illustrates how the fingertips should be inserted under the hair in position on the scalp for the rotary massage movement.

nutrient matter to the scalp. Wire brushes should never be used for this purpose as they are likely to irritate the scalp and make the condition much worse.

Methods of using the pulling process are described in Chapter III and are illustrated in the present chapter. This measure strengthens the roots of the hair and prevents baldness.

Electricity and Mechanical Vibrations

I have heard of excellent results being obtained from the use of certain forms of electricity and by mechanical vibration, applied to the scalp.

These means are all calculated to produce a better circulation of blood in the areas underlying the scalp, and thereby promote increased nutrition at the roots of the hair.

Baldness in the Aged

I mention senile baldness briefly in this chapter, as there is little or nothing to say

about it. This form of baldness is merely an expression of the general lowering in nutrition, lack of regenerating power, and the tendency to atrophic change that attends advancing years.

In this form of baldness the hair follicles shrink in size and gradually become atrophied; the little capillaries which nourish the follicles contract and are finally obliterated. This cuts off all nutrition and baldness develops, which is permanent.

If, however, the general health can be maintained at a high degree of efficiency, this form of baldness can often be put off to the very end of life.

Alopecia Areata

This is a condition in which there are localized bald patches, either round or oval. These begin as small patches and gradually increase around the border. Alopecia appears most frequently on the scalp, shoulders and eyebrows, though it may appear on any

part where there is hair. It may develop slowly or fairly suddenly, and may be partial or complete.

First there is noticed a spot where the hair is beginning to thin. Then the person observes a bald spot. On pulling the hairs it is found that they come out easily and without pain. Soon the hairs begin to fall out spontaneously. This patch grows, either slowly or rapidly and in all directions, though sometimes more in one direction than another, thus making an oval spot. There may be one patch or several, and they may begin at the same time or there may be excessive crops. The skin usually is smooth, soft and dead-white, or occasionally slightly pinkish. Sometimes the entire scalp becomes denuded of hair, and even the eyebrows and eyelashes may disappear. The beard may be unaffected, or affected in spots or disappear entirely.

There is great variation in the duration of this condition. Recovery may take place



As a variation of the rotary treatment, another simple movement for self-massaging the scalp is pinching folds of the scalp gently between the fingers. Treat the entire scalp in this way.

in a few months, while in other cases the condition may be present for years and then recovery takes place, or there may be permanent baldness. The condition may develop in any period of life. In children and young people the hair usually returns sooner or later. In adults there is more likely to be a permanent condition remaining.

If the growth of hair returns there first is a covering of downy hairs which may be shed or which later are converted into normal hairs. Sometimes the hair begins to return and again falls out. Usually no other symptoms are associated with the condition, though sometimes there are loss of appetite, headache and unnatural sensations. A one-sided headache has often been observed before the alopecia begins. The disease occurs about equally in the two sexes, but it is more common in early life. Of five hundred and six hospital cases, two hundred and fourteen were under fifteen



Massaging the back of the head, using the pinching movement. In all massage movements the fingertips must be inserted under the hair to reach the scalp itself. To attempt to massage on top of the hair will be ineffective and unsatisfactory.

years of age, and two hundred and fourteen occurred between the ages of fifteen and thirty-five.

There are two distinct ideas regarding the cause of this peculiar trouble. One idea is that it is parasitic. It does occur in epidemics in institutions, particularly in France and Germany. The other idea is that it is due to abnormal nerve action, nervous shocks, such as fright and prolonged anxiety, injury to the scalp not infrequently is directly followed by this condition. There may be both causes working together, but the nerve cause seems more likely in most cases at least.

Spontaneous recovery takes place in many cases, especially in children and young adults. The outcome is not so favorable in advanced adults. The longer the disease has persisted the less likely is recovery to take place. Relapses are not uncommon.

As treatment, equal parts of croton oil

and olive oil may be applied until an inflammation of the skin often with the formation of blisters results, after the subsiding of which treatment may be repeated or one may await developments. Equal parts of lactic acid and water or alcohol is another remedy. With either treatment the skin is first cleaned of all oil by hot water and soap with a little ammonia, and then the remedy is applied with a swab of cotton until the part becomes slightly red. The treatment is interrupted for a few days after the stimulation has become well marked, boric acid and vaseline being spread over the surface during the intervals. Many dermatologists use chrysarobin ointment, but this treatment is for the specialist.

Sunlight and ultra-violet rays are perhaps as valuable as any treatment. The iron arc or carbon arc light may be used also, any of these being used until pronounced redness or slight blister formation, then a rest for two or three weeks and the

treatment re-applied. Cod liver oil may be used to advantage, also a diet providing all of the minerals and vitamins. There should be general physical hygiene as well.

CHAPTER XI

Gray Hair

THERE is an old adage to the effect that the glory of a young man is in his strength, and the beauty of an old man shines in his gray hair. This may be true, but it affords little satisfaction for men or women approaching middle life who watch the gradual increase in gray hairs, supposed to be indicative of having passed the noon-day of life. Most people, fortunately, accept the graying hair as being a normal part of the changes that come with passing years, and gray no more rapidly because of worry over the change.

The scientific term for graying of the hair is *canities* (pronounced can-ish-e-ēz).

Graying of the hair may be local or general, partial or complete, temporary or permanent. It results from atrophy of the hair

pigment. It may be congenital, or premature, or the result of increasing age.

There may be a physiological atrophy or graying, or a pathological atrophy.

A certain span of life is given each hair, and upon completion of this the hair undergoes physiological atrophy, becoming separated from its papilla which likewise atrophies; a new papilla and a new hair are formed from the old follicle, thus perpetuating the hair on the scalp and body.

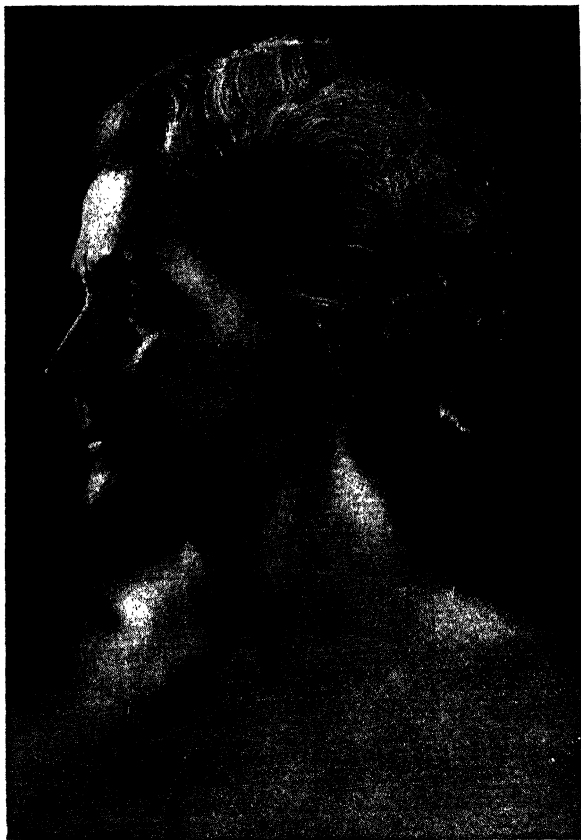
Some authorities say that there also is a degeneration of the lower part of the follicle, including the hair-bulb, and that this part of the follicle is absorbed, leaving only the upper part of the follicle and the hair-root. Later a cylindrical outgrowth of epithelial cells extends downward from the outer root-sheath, enfolding over a new papilla. The formation of new cells follows, producing a new hair-bulb and hair. The old hair is gradually pushed out as the new one slowly makes its way to the surface.



With suitable modes of hair dressing, long or short gray hair may be made to present an appearance as attractive as hair of any other color.

Sometimes the hair structure undergoes a pathological or premature atrophy, the change taking place part or all of its length. In one form small bulbous swellings form on the shaft of the hair, at one point or at irregular intervals. The hair becomes fragile and breaks off at or between these nodosities, leaving a ragged, brush-like end. The swellings usually are due to accumulations of pigment at these points, causing the hairs to present alternate bright and dark colors. The bead-like effect in the mass of hair causes great disfigurement. This form of atrophy may be found in any hairy region, but usually is confined to the beard and moustache. It has been found in large numbers of German school girls. For the development of the condition a predisposition appears to be necessary—an abnormal condition of nutrition. This was observed by the coexisting defects of the nails and teeth.

Fragility of the hair is another variety of



As here illustrated, it is quite practicable to dress effectively gray hair cut to shorter length.

pathological atrophy of the hair. There is, in this condition, a brittle and cleft state of the entire hair substance, frequently not only outside the hair follicle, but inside it as well. The hair of the head and beard usually is affected. The hairs are irregularly thin or flattened, rough, uneven along the shaft, brittle at points, breaking off and splitting up, often into several fibrillæ. Sometimes the seat of the change is the follicle, when the hairs may be found curled up within it, causing considerable itching. The atrophy may be slight or marked.

The congenital form of canities is seen most pronounced in albinos. Otherwise it usually occurs as tufts of white hair, but may occur as round patches. The condition is not common. It seems to be hereditary in some families, several members of a family possessing a white tuft of hair.

It is the acquired condition that is most often seen. Somewhere around the age of thirty-five is the usual time for its appear-

ance, but in some families and in certain individuals it may begin much earlier or much later. When it begins in early life it constitutes premature grayness; when it appears in middle life it is merely one of the changes incident to growing old. There are very few people who reach the age of fifty years without some gray hairs.

The first appearance of gray hair usually is at the temples, though it may first appear at any part of the body or head or face. The beard sometimes is affected first, but often it retains its natural color for quite some time after the head has become quite gray—possibly because of the more frequent pulling (stroking) it receives and also because the skin of the chin and face is less likely to become rigid as does the scalp. The hairs of the pubic and axillary (arm-pit) area may never lose their natural color, though as a rule they do become gray, but much later than the scalp hair. Very rarely

the normal color may return to gray hair—just as it is possible for one to have a third set of teeth.

It is at the root of the hair where the change in color first takes place. Increasing deficiency of the pigment causes the hair to slowly change from gray to creamy or snowy white. No change takes place in the hair other than this loss of pigment. There may be a gradually developing baldness, but there is no definite relation between grayness and baldness.

What Causes Gray Hair

The appearance of gray hairs results from some interference with the pigment formation in the hair papilla. Metchnikoff considered the loss of pigment due to the cell-destroying action of other cells. The gray color of the hair results from several factors: a deficiency of pigment, the essential color of the hair, and the presence of

air-bubbles between the cells of the cortex. Loss of all pigment results in white hair. The role of air-bubbles in the causation of gray and white hair is shown by the fact that exhaustion of the air from a hair, by means of an air-pump, causes return of the hair to its normal color to an appreciable extent.

Recognition of the cause of gray hair and understanding of the reasons for the loss of its pigment suggest the preventive. After the appearance of the first gray hairs it may not be possible to entirely check the process, though it may be slowed up somewhat. But if one takes the necessary steps to maintain as youthful a body as possible before and up to the time of life when gray hair usually appears, it is possible to postpone its development.

Since ill-health and gray hair are often present together in middle age, it is important that the physical health be kept as high

as possible. Failure to conserve the health is often an important factor in the comparatively early appearance of gray hairs. Denial to the body any of the mineral elements and vitamins required for perfect health, for youth of body cells and organs, also sunlight and fresh air, adequate relaxation and sleep, and so on, doubtless leads frequently to premature grayness. Worry, anxiety, fear, apprehension, melancholy thoughts—all depressing mental processes and emotions—may hasten the condition. Chronic headaches, neuralgic or any other pains of considerable degree, frequency or duration, and any condition that results in a drain on the nervous energy, such as broken rest, insomnia, heavy business cares, overwork and any condition resulting in nervous tension, tends to hasten the process of whitening.

Fevers and wasting diseases—such as tuberculosis, anemias and malnutrition—are frequent causes of gray hair.

Premature Gray Hair as a Family Trait

The tendency toward gray hair seems one of the easiest things to inherit. If one's father or mother became gray early in life it is very likely that one will follow suit. A mother (or father) who had gray hair at thirty-five would be quite likely to pass this tendency on to her daughter or son. And it would be foolish and futile to waste time and energy in lamenting so natural and inevitable an incident.

Hair That Turns White in a Single Night

Many people can recall one or more instances of friends or relatives to whom great grief or sorrow or shock has come who became gray in an incredibly short time. There are cases on record, it happens, of those who turned gray in a night. Dr. Pavey relates the case of a soldier who was taken prisoner, deprived of his uniform, and entirely nude, was surrounded by his captors

and questioned. He was seized with violent trembling and great terror, apparently stupefied by fear. In the space of scarcely half an hour his coal-black hair had turned uniformly gray over his entire head.

Dr. Lebar of Paris reports a case of a soldier, twenty-three years old, who was blown into the air by a mine explosion and next day had locks of white hair on the side of his head. The decoloration of the hair was complete from end to end, the long and short hairs being affected alike.

In these cases, seemingly the powerful nerve shock set in movement the medullary cells of the hair to which the pigmentation is due, thus affecting a pronounced change in them. In one case reported, the hair turned gray over the left side of the scalp periodically, as a result of psychic exaltation, lasting a few hours or days and then resuming its natural color.

Another case reported was of a woman of forty-eight who was nursing an ill sister.

and herself became melancholic. Her hair quickly became uniformly snow white, but upon return of her health there appeared a new and luxurious growth of dark brown hair.

There are any number of cases in medical literature proving that terror, for some unknown reason, wrings the pigment out of the hair, or results in entrance of air-bubbles between the cortical (outer) cells of the hair, causing grayness.

Usually there is some change in the glandular system when the hair turns gray prematurely, or suddenly. The adrenal glands have much to do with the pigmentation of the hair and skin, and it is well known that these glands are adversely affected by fright, sorrow, mental strain, certain diseases and other factors. There usually is a reduced activity of these adrenal glands when the hair becomes gray "before time."

What Can Be Done for Gray Hair?

As a rule, hair once turned gray will remain gray. Sometimes normal color as stated above will return spontaneously, but usually it does not, and certainly one cannot expect it to do so. When resulting from acute disease the gray color may give place to normal color upon recovery from the disease.

Much can be done to improve the condition of the scalp and therefore to better the nutrition of the hair. First, the scalp must be kept scrupulously clean; regular shampoos, with pure soap and water (as described in Chapter V) will be found helpful. Excessive dryness of the hair must be prevented, or when it is present it may be relieved to an appreciable extent by the use of olive oil or lanolin (wool-fat) rubbed into the scalp.

Where the premature gray hair may be the result of a general run-down condition

the normal color may be restored, or at least the graying process held in check, by building up the health in every way possible. The use of internal secretion remedies may be helpful, among these suprarenal (adrenal) and also pituitary gland extracts in minute amounts, under a qualified physician's direction. In some cases where there are evidences of defective thyroid activity, thyroid gland extract may be used under the supervision of a physician.

Liquid petrolatum may be massaged into the scalp where the white or gray hairs occur, twice daily, with some benefit if the general health at the same time is improved. Vigorous brushing with a long-bristle brush morning and evening before applying the petrolatum may have a very beneficial effect also. Pulling the hair by running the fingers through it will stimulate scalp circulation. None of these procedures, however, will have a direct effect upon the color of the hair.

The Use of Hair Dyes

There is risk of injury to the hair structure when dye is applied to the hair. The coloring substance may be of such consistency that it shrouds the scale-like outer formation of the hair-shaft. What is naturally a glossy, flexible hair-shaft thus may take on an unnatural aspect, quite lacking in flexibility as well as gloss. The hair must be free to breathe just as all similar living structures must. Again, perhaps the chemical effect of coloring substance may tend to destroy the life and vitality of the hair.

If by good fortune the application is not injurious to the hair one still must face the continual growth of all hair. One may completely change the hair-coloring down to the very surface of the scalp, yet within a brief space of time each hair at the point of emerg-

ing will reassert its natural color. So coloring or bleaching the hair is at the best a temporary, and at the worst a dangerous, makeshift. Such measures demand for safety competent professional advice and direction.

In the use of dyes one must be very careful not to use dangerous mineral dyes. They are very likely to cause trouble if not properly used. Vegetable dyes have to be used more frequently, because they are more feeble in action; but as a rule they are harmless. However, alarming symptoms may result from the use of pyrogallic acid, a vegetable acid very frequently utilized. One valuable vegetable dye is a combination of powdered dry henna and powdered indigo plant. The two are mixed separately with water, forming a thick paste with each.

The henna paste is first applied to the hair, and after an hour or so, when the hair

presents a red color, the indigo paste is applied. After several hours the hair is washed well with water, when it is found to be a deep black color.

Whatever hair dye is used, it is necessary to wash the hair well with soap and hot water containing a little ammonia, in order to remove all oil. Then the hair is to be thoroughly dried before the dye is applied.

One considering dyeing his or her gray or white hair should understand at the outset that it is impossible to alter the color of the hair so that the change cannot be detected. This is for two reasons: The color itself may be readily detected by even a hasty observation; and, even more important, the changes in the skin pigmentation and coloring that have kept pace with the graying of the hair, in time, nature and degree, are not altered when the hair is dyed, and there just seems to be "something wrong" when the skin and hair are compared together.

Ordinarily it is better for one to accept

the change in the color of the hair, rationally and philosophically. Whatever is done, the hair is gray just the same, even though dyed. The individual *knows* it is gray; he isn't deceiving himself by the dyeing. Many gray heads are more attractive than the same heads were when the hair was some other color. Few are less attractive. Build up the health as high as possible and let the hair be what color it will.

There can be no harm and no objection in using such simple preparations upon the hair and scalp as some of the pomades, egg shampoos, etc., that have been mentioned in this book. It is the use of preparations that tend to alter and that do alter Nature's gift, as to change in coloring particularly, that is "playing with fire"—and many scalps have been set "on fire" with this or that preparation that had been considered "perfectly safe." Nothing can be said to be perfectly safe that suddenly or quickly

changes Nature. This applies to anything used either internally or externally.

One queer fact regarding human nature that so often advice is sought of the get-rich-quick quack, or the beauty specialist or the hair-dresser with little or no knowledge of drugs and physiology, that would not be sought from a well-trained or at least a better-trained specialist. And, strange as it may seem, many of the treatments advised by the quack (*and paid for and used*) would never be followed *if* advised by the specialist.

But why try to disguise a natural process? Be as Nature intended you to be! Make the most of every feature you have by bringing out its best qualities, not by attempting to alter it. No two people are made in exactly the same mold, nor are they painted by Nature with the same brush. Any individual who makes the best of his or her features through care and general

health perfection is a much more agreeable person to look upon than when given artificially modified features. Therefore, as much as is possible, *be natural!*

CHAPTER XII

Superfluous Hair

THE leading scientific names for superfluous hair are *hirsuties* (pronounced hir-su-te-ēz) and *hypertrichosis*. Excessive hairiness is a general cause of embarrassment. Just as matter out of place may be "dirt," so hair out of place becomes a nuisance. Superfluous hair may consist of either an abnormal growth or an excessive growth of hair, regarding region, length, thickness, degree and age or sex. It may be congenital or acquired, and partial or general in its distribution.

Partial congenital hirsuties is not uncommon, the most usual form being the hairy moles, which may appear on any part of the body, and mother's marking. It may appear between the eyebrows or on the arms or on the face of women, forming a moustache

or beard, causing disfigurement and mental annoyance. Sometimes an isolated long wisp of hair may be present on the shoulder, scalp or other part of the body.

General congenital hirsuties is very rare. Several cases have been recorded of extreme hairiness. Schwe-Maon was a hairy Burmese, having a daughter, Maphoon, similarly affected. The daughter married and had a daughter also hairy. Another case is of Negrini, a renowned dancer, whose hair increased over three yards in length after recovering from an acute disease. Other cases are of Julia Pastrana, another dancer whose body was hairy and who had a fine beard; her daughter also was hairy; Adrian Jeftichjow, the Russian dog-faced man and his son Fedor, the dog-faced boy. This father and son were exhibited in various countries in the latter part of the last century. Another instance is of Barbara Urster, who had a beard reaching to her waist.

Among the races particularly noted for hairiness are the inhabitants of some of the islands north of Japan. Where there is this congenital hairiness there are stigmata of arrested development, notably anomalies of the teeth (molars and canine teeth often being absent), and retarded puberty.

Acquired hypertrichosis. This condition is never as pronounced as the congenital form and seldom is especially general in distribution, though to women the hair growth is particularly distressing. One woman of thirty-three, unmarried, suffered from amenorrhea, and at puberty a general hairiness began and continued until the entire body was covered except for a bald spot on the top of her head. In another case a patient at one of my sanitariums in whom amenorrhea developed at the age of twenty-nine began to grow numerous beard and moustache hairs, which disappeared on re-establishment of normal menstruation after two and a half years. In another case a

woman had had repeated pregnancies and then passed through a period of amenorrhea for eleven years, her face becoming covered with coarse hair during this time. She became pregnant again and after the birth of the child the hair disappeared spontaneously. During pregnancy transitory hairiness may develop and disappear spontaneously after childbirth. Heredity is as marked in these cases as in the congenital form, as a rule.

Partial acquired hairiness. This is seen in varying degrees in some families in adult and later life and may consist simply of a downy growth or a number of coarse scattered hairs or tufts. The chin, lips and cheeks are common places, and may occur in women as well as in men resulting in what are called "bearded women."

Causes of Excessive Hairiness

The causes of this unsightly and undesired condition are often obscure. Without

thickness of the layer of tissue between the scalp and the tables of the skull, upon the freedom of the scalp from parasites and germs, and upon the general state of health.

If the "tonic" contains an antiseptic powerful enough to destroy parasites and germs, without at the same time causing any destruction to the delicate tissue of the scalp, that "tonic" may be said to have some reason for existence, and its use on these premises may be justified.

If, however, there is any parasitic trouble, or if the tight, shiny condition of the scalp shows the loss of this tissue layer mentioned above, it is obvious that no tonic in the world is going to restore and make good this loss of tissue, upon which the hair-bulb depends for nutrition.

Irrespective of whether the general health is good or not, if the layer of tissue is lost no amount of rubbing on the surface of the scalp with the contents of a bottle of

hair tonic is going to be effective in restoring the lost hair.

By all means improve the condition of the blood, secure and maintain thorough cleanliness of the scalp and hair, and use every legitimate and safe means for stimulating and increasing the circulation at the roots of the hair. Doing this, you may be sure that you have employed the very finest "tonic" in the world.

It is possible, however, frequently to bring about a better circulation of blood in the scalp through the use of stimulating lotions, ointments and washes, though I do not recommend them. Sunlight or artificial sunlight (particularly ultra-violet rays, by a suitable sun-lamp) is superior to any and all of these bottled and canned scalp stimulants and, if not overdone in one's over-enthusiasm, they are safe—and of benefit to the entire body. But if one still desires to use a concocted stimulant, perhaps one of

the safer applications of this nature is what is called a quinine hair tonic. Here is a recipe for a tonic of this type:

Quinine sulphate	20 grains
Glycerine	1 fluid ounce
Cologne water	2 fluid ounces
Bay rum	2 fluid ounces
Rose water	11 fluid ounces

This recipe, like others given in these pages, is best prepared by a qualified pharmacist, using only the purest ingredients.

Remember that the chief result of using so-called tonics of this type is to stimulate the scalp. Remember also that overuse of such preparations may instead irritate the scalp.

The stimulation accomplished by such tonics is in great measure due to the alcohol which they contain. Ingredients may be listed in terms like eau de cologne, or as

above, as cologne water or bay rum. But even when so described in recipe or on label, the actual agent at work is after all alcohol.

Alcohol, although it stimulates the skin when applied, quickly evaporates with dryness as a result. The hair also becomes dryer after evaporation of the alcohol contained in preparations which have been applied to it.

It is obvious then that under any circumstances applications containing alcohol must be applied to the hair and scalp with moderation—and must not be used over-frequently.

In the instance of quinine tonics compounded of the ingredients listed on page 191, glycerine and rose water are, so to speak, softening agents which tend to offset the drying effect of the cologne water and bay rum which the recipe recommends to be mixed with them.

The quinine is worked up into the glycerine and the other ingredients are added in the order given.

The question of hair tonics is one which has excited a very great deal of controversy. Startling claims have been made for the efficacy of many of these formulas, great advertising campaigns have been conducted in stimulating their use, and many bitter tears of anguish have been shed over their failure to yield the desired results.

Yet, when all the hurly-burly is done and the smoke of battle clears away, the conclusion is forced on us that if there were any "sure fire" tonics the bald-headed doctors and the bald-headed barbers who are so skillful in prescribing and so insistent in recommending them would use a little on their own bald pates and thereby prove the virtue of the product the praises of which they sing in such robust key.

CHAPTER XV

Eyebrows and Eyelashes

PROPERLY proportioned eyebrows and eyelashes have a very pronounced effect in enhancing beauty, and making for general attractiveness. This is emphasized most aptly in those who have lost this natural growth. For the loss gives one a decidedly peculiar appearance, and much of the attraction that he or she may have previously possessed may be lost.

However, many of the young women of today pattern after stage and movie actresses who have deliberately had their eyebrows so narrowed as to leave but a pencil-line effect.

Very often the care of the eyelashes and eyebrows is neglected, or at any rate slighted; but it must be apparent that such care, if necessary, is very well worth while,



To have attractive eyebrows and lashes they must be cared for regularly. Brushing the eyebrows will promote circulation and smooth them.

as the results accruing therefrom are so readily perceptible.

Strengthening Eyebrows and Eyelashes

The fact that eyebrows and eyelashes can be strengthened and made to grow thicker and longer is not generally known. Proper care will greatly improve them in most instances, and the possibility of losing them under such circumstances is hardly worth consideration.

Once each day, or at least two or three times a week, all the hair of the eyebrows and eyelashes should be slightly pulled several times, thereby removing all hairs that are partially or entirely dead. This enables the new hair to appear, which in nearly every case is stronger than that removed.

Great care should be used to avoid pulling the eyelashes too hard, at least during the first several attempts.

Do not be in the least alarmed if a great many hairs are removed the first few times



Gentle pulling of the eyelashes will promote their growth and attractiveness.

this process is practiced, for a new hair will grow for every one removed. The hairs that remain under these circumstances will also grow stronger under the influence of this method, and should therefore grow longer, giving both the eyelashes and eyebrows a more pleasing appearance.

In pulling the eyelashes, a number of lashes of either lid should be caught between the finger and thumb, pressing slightly on the hairs as they are pulled outwards. The same process can be used for the eyebrows.

Clipping the Eyelashes

Clipping the eyelashes, which many people believe strengthens them and causes the lash to grow more luxuriantly, is a pernicious practice, and should not be indulged in by any girl or woman who values her good looks. For the hair often coarsens and loses that desirable "sweep" that makes long eyelashes attractive.

Lotions and Recipes

Whatever will help grow hair on the head will help equally to grow eyelashes or eyebrows. Many hair specialists recommend a little vaseline, olive oil or lanoline rubbed into the eyelashes or eyebrows morning and night, together with the use of alternate hot and cold applications.

One should be particularly careful to avoid the use of any nostrums which might injure the delicate structure of the eye or produce painful or serious disorders. For there may be many worse things than to lack a few extra hairs on the eyebrows or eyelashes.

When Purulent Discharges Destroy Eyelashes

One of the most certain ways in which the nutrition of the eyelash can be affected is through the action of pus, which many people develop from a catarrhal condition of the

conjunctiva, the mucous membrane lining of the eyelid.

The pus germs thus formed have a tendency to poison the nutrient material in the roots of the hair, and thereby inhibit the normal nutrition of the hair follicles.

If the eyelashes are falling out from this cause, it is absolutely necessary to overcome this purulent condition of the eye. This can best be done, perhaps, by washing the eye thoroughly, several times a day, with a saturated solution of boracic acid, best used in an eye-cup. The eye-cup should be half filled with the solution, which should always be warmed to a little more than body temperature, after which the head should be lowered and the cup brought up over the eye, the head thrown back, and the eyelid opened and shut vigorously a number of times, so as to bathe every part of the eye thoroughly in the antiseptic solution. If the boracic acid is not effective a sulphate of

EYEBROWS AND EYELASHES 201

zinc solution—one grain to one ounce of water—usually will bring quick results.

After this purulent condition is cleared up, the eyelashes should be brushed with a regular eyebrow brush, or any small soft brush. Then the index finger should be anointed with a little vaseline or pure olive oil, and the eyelashes should be gently stroked in an upward direction, so as to make the eyelashes curl normally. Always be careful not to get the oil in the eye, as it may prove somewhat irritating.

Some of the most famous beauties of the stage and screen have found this method of treating the eyelashes gratifyingly effective in stimulating growth and also an upward curl that is attractive in their photographs and “close-ups.” It would well repay any young woman who cares to look her best to put this simple plan into execution for the results that are possible.

So many women today darken and “bead” their eyelashes with mascara. The applica-

tion, when “artistically” done, is tedious, but may enhance the attractiveness of the eyes—so long as it remains in place and uniformly on the lashes. But the wearer dare not perspire nor otherwise disturb the make-up, or the result is wholly undesirable. In any case, the mascara easily comes off on the cheek or at the corner of the eye and spoils all beauty. A pronounced smarting results if any of the substance gets into the eye, which becomes red and very unlovely.

CHAPTER XVI

The Beard

AMONG Oriental races the beard is almost an object of veneration, and it cannot be denied that it lends a certain natural dignity to a man.

So closely associated is it with sincerity and sacredness among the Eastern peoples that the Turk swears by "the beard of the Prophet," while the Oriental Jew, on taking his oath, invariably places his hand in austere gravity upon his beard.

Normally, of course, the beard is a secondary sexual appendage, like the tail of a peacock, the tawny mane of a lion or the horns of a stag, and is devised for the purpose of convincing the female that the possessor of the beard is marked by complete masculinity.

Darwin, and various other students of

human evolution, have shown any number of decorative and distinguishing uses for the beard.

Among moderns, it no doubt protects the throat and chest against the winter wind. Many of the men on polar expeditions have grown luxurious beards partly to obtain this benefit, partly because of the discomfort of shaving a wind-burned face—not to mention the inconvenience. It is doubtful, however, if quite as adequate, or even more adequate means could not be contrived to this end, at least in ordinary conditions, by the use of a muffler or a turned-up coat collar or some other warming device.

Beards Not Hygienic

In practically all Occidental countries—certainly in English-speaking lands—men seem to have come to a tacit understanding that beards are taboo—especially when worn by young, or old-young men.

There are, of course, certain districts, re-

mote from the great centers of civilization, where the beard is still in evidence, and quite generally worn. But it is safe to say that the average young or middle-aged man, who wants to be classed as up to the times in his habits and appearance, would hesitate a long time before letting his beard attain any considerable length.

The chief reason why the smooth face is to be preferred no doubt is based on grounds of sanitary or cleanly nature.

Of course, many may argue that we do not hesitate to let our hair grow long. In fact, thousands, if not millions of women take pardonable pride in the length and thickness of their hair, and certain religious sects taboo cutting of the hair and shaving the beard of the male members. And this long hair, whether worn by men or women, must also harbor dirt, dust, and germs.

I admit the truth of this. But I would point out the fact that the top of the head is a much safer and saner place for hair than

is the chin and lips. This, I contend, is only common sense, and my criticism is truly constructive and scientifically helpful.

How Should the Beard Be Cared For?

There are thousands of men who have worn beards for so long that they would never consider for a moment the sacrifice of either beard or mustache. Especially is this true of Europeans.

These men are naturally interested in preserving their beards in the best possible condition.

To these men I would say that the care of the beard should be the same as the care of the hair—only more time and care should be bestowed upon the beard, because of the fact that it needs more care. For, as I have pointed out, man's beard is more exposed to contamination, and to sources of possible infection from the food, saliva, and other agencies that work to its undoing.

Beard and moustache should be washed

daily in warm water and some pure, bland soap. A few drops of some of the milder antiseptics may be used, if desired, although clean, pure water and soap are excellent in themselves.

Then the beard should receive the benefits of frequent combing and brushing for the purposes of more certainly removing all possible harbored particles, making it more luxuriant, and giving it more "life."

The beard should also be trimmed occasionally, so as to keep it of fairly uniform length.

Beyond this, it should be treated just as though it were the hair of the head—being subject to the same laws of health, and governed by the same principles of growth and well-being as is the hair on any other part of the body.

CHAPTER XVII

Hair Dressing

TO A mere man the art and science of concocting a coiffure must ever remain one of the Eleusinian mysteries.

We gaze on the prints of some of the old-style methods of hair dressing, and frankly admit that woman is indeed fearfully and wonderfully made. The proof of this is apparent to anyone who will take the trouble to let his eye rove over the yard or so of hirsutic landscape, be-wigged, be-scalloped, be-ribboned, be-powdered and otherwise be-devilled, there shown.

Truth compels me to state, however, that woman has become decidedly more practical in the arrangement of her hair than she used to be in the time of Madame Pompadour, Catherine de Medici, and some of the other celebrities of the yester-years, just as she is

with her clothes, foolish and inadequate though they are from every masculine standpoint. Yet they represent a tremendous improvement over the old crinoline, bustle, street sweeper, and heaven-knows-what-else that woman has evolved from time immemorial in the way of sartorial monstrosity.

How Women May Look Their Best

There probably isn't anything more beautiful than an attractively arranged head of hair—setting off the loveliness of the face beneath it.

There are a few general rules it might be well for women always to bear in mind in the matter of hair arrangement. The first is that the woman with a round, plump face, and a short nose, should never attempt to roll a mass of hair upon the top of her head.

The woman with a prominent nose should never wear her hair in a huge knot at the back, for this elongates the side line from

the tip of the nose to the end of the hair making this line too long to be in proportion.

“Bobbed Hair”

This is probably an adaptation of the old “Dutch Cut,” used from earliest times to keep the tangled tresses of children from still further tangling.

This style of hair dressing is sensible, hygienic, and exceedingly attractive with most types of women. I can heartily recommend it as an evidence of sound common sense, and am pleased to note that in recent years it has become quite universal, as to geographical distribution and as to age of women employing this style.

It is one of the many things that go to prove that the world is becoming saner and more intelligent in its dealings with all matters that have to do with physical welfare.

(THE END)

